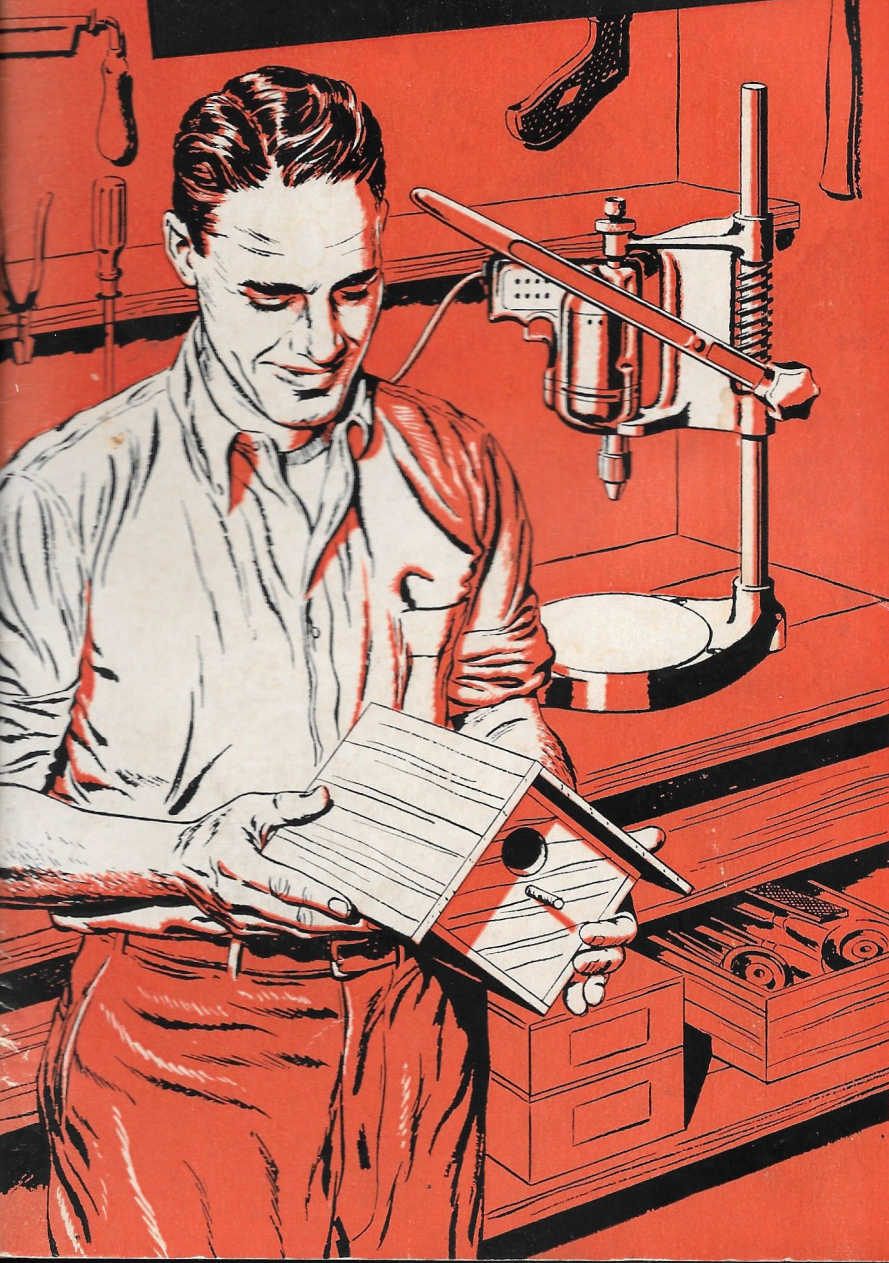


Handy Tips for HANDY MEN



HOW TO:

- Drill holes in any material
- Speed up screw driving
- Power polish your car
- Hollow grind and hone edged tools
- Build a work bench
- Make garden stepping stones
- Order common nails and lumber
- Use portable electric saws

Handy Tips For HANDY MEN

Here is our new booklet written especially for homeowners. We are very happy to make it available to you and hope you'll get a lot of use out of it.

It contains a wealth of ideas for the home mechanic. Some of them apply specifically to Black & Decker Utility Electric Tools and their almost unlimited variety of uses. Others are practical hints and short-cuts that grow from the ingenuity of people much like you. For, in thousands of homes across the country, Electric Tools are looked upon as essential home appliances...like your vacuum cleaner, mixer or washing machine...easy to use, fun to use for father, mother and youngsters alike.

If you haven't already experienced the satisfaction of doing your own home jobs with Electric Tools, we'd like to have you drop into your favorite hardware, appliance, department or specialty store and get a demonstration of the Black & Decker Utility Line.

In any case, we appreciate your wanting this booklet and hope you get as much enjoyment out of reading it as we had in putting it together for you.

Bob Davis

Home Service Dept.
THE BLACK & DECKER MFG. CO.
Towson 4, Maryland, U.S.A.

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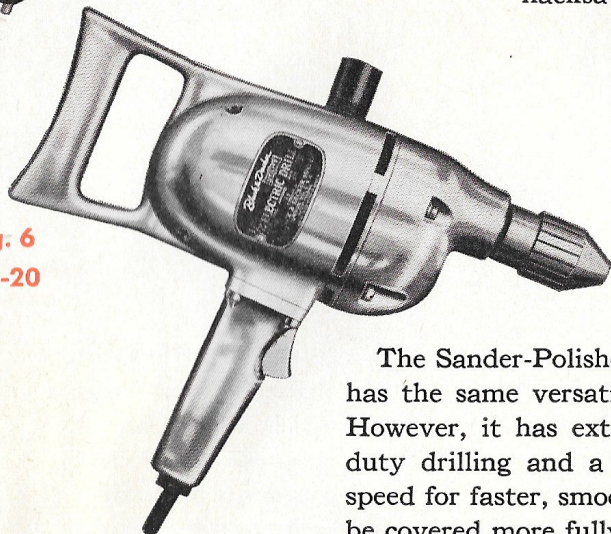
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Fig. 5
HU-1



driving many attachments other than drill bits; the latter has greater capacity for bigger drilling jobs and also drives Hole Saws up to 3" in diameter for cutting clean, round holes in any material a hacksaw will cut.

Fig. 6
HU-20



The Sander-Polisher is another tool that has the same versatility as the $\frac{1}{4}$ " Drill. However, it has extra power for heavier-duty drilling and a 3000 R.P.M. spindle speed for faster, smoother sanding. It will be covered more fully later in this book.

DRILLING DATA

Before starting to drill, make sure the material being drilled is firmly anchored. Then, mark the point which is to be the center of your hole with a punch or nail. This will form a small indentation and will make it easy to drill precisely where you want to . . . and the drill won't "travel" over the work, marring the finish. Detailed instructions on operation are contained in a "use" booklet accompanying the tool.

Larger Electric Drills, such as the $\frac{1}{2}$ " model, have pipe handles for better control. *You can also use this handle to store your drill bits, keeping them in place with a cork.*

When drilling thin material, always back up the material with a wood block to avoid distorting the work, spoiling the accuracy, and perhaps breaking the bit.

To avoid stalling an Electric Drill, relieve the pressure as it breaks through a hole. In most instances too much pressure or an improperly sharpened bit is responsible for the Drill's stalling. Whenever the Drill stalls, turn off the switch immediately, withdraw the drill from the hole and determine the cause.

When you're drilling wood, particularly deep holes, partially remove the drill from the hole several times while in motion. This will clear the chips, speed up drilling and prevent overheating.

When drilling steel, use cutting oil (lightweight lubricating oil will often suffice) to keep the drill bit cool and permit easy disposal of chips. No lubricant is necessary in drilling cast iron.

For absolute accuracy and drilling in tougher material where the work is small and portable, use a Drill Press. A very substantial and economical Drill Press can be made with your Electrical Drill and the Bench Drill Stand. (Fig. 8) The Drill can be mounted in the stand in a few seconds; and removed just as easily. Much more pressure can be applied with a minimum of effort with a Drill Press.

A handy countersink can be made from a pointed dowel to which garnet paper has been glued.

When drilling holes to a predetermined depth, a piece of dowel can be used as a depth gauge. (Fig. 9) Run the drill bit into a dowel the length of which represents the difference between the length of your drill bit and the depth of the hole you wish to drill.

When drilling brick, cement, cinder block and similar materials, you should use carbide-tipped Masonry Drill Bits (Fig. 3). Ordinary steel bits would be dulled rapidly in attempting this type of work. The amount of pressure applied when using Masonry Drills will depend upon the material being drilled and the diameter of the hole. A drill revolving with too little pressure will soon dull or glaze the cutting point, making drilling difficult thereafter. Once a certain amount of pressure has been applied, it should be maintained or increased, *never reduced!* If you become fatigued, you should remove the drill from the work and rest, *not let up on the pressure you apply.* In general, coolants are not necessary when using Masonry Drills. However, in some instances of very hard material, a water or turpentine coolant can be applied in sufficient quantity to keep the entire drill tip wet.

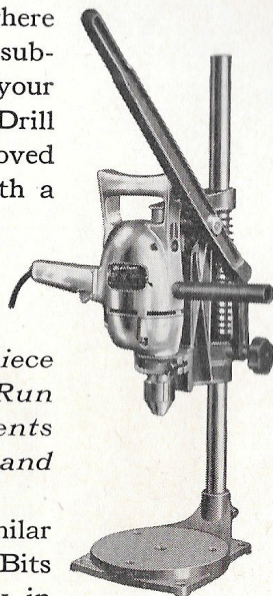


Fig. 8
HU-2301

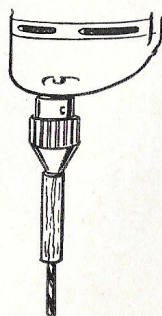


Fig. 9

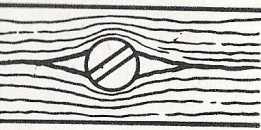
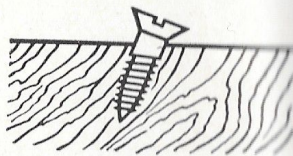


Screw Driving:

**A PORTABLE ELECTRIC
DRILL helps you do a
better, faster job!**

ONE OF THE MOST IMPORTANT USES for your Electric Drill is drilling pilot holes for wood screws. It is all too common practice in driving wood screws to force them into the wood without using a pilot hole. The sketches on these pages indicate the dangers of this practice and the advantages to be gained by using the correct size pilot and shank clearance holes in all wood screw assemblies.

SKETCH NO. 1 shows how, in end grain driving, the grain tends to force the screw off its perpendicular path.

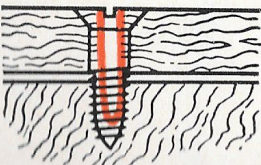


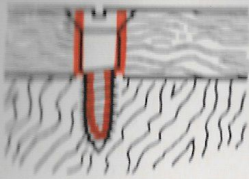
SKETCH NO. 2 shows the tendency to split the wood in side grain driving. The wood screw does not remove material but merely compresses it. This compression takes place along the lines of least resistance and the wood easily splits, minimizing the holding power of the screw and spoiling appearance.

SKETCH NO. 3 shows a correct pilot hole (indicated by red circle) giving the screw holding power in a full 360° circumference and preventing splitting.



SKETCH NO. 4 shows the disadvantage of drilling only a pilot hole the size of the screw root diameter. This condition increases the load on the driver and has a tendency to separate the two pieces rather than pull them together.





SKETCH NO. 5 shows correct size pilot and shank clearance hole.

See Page 36 for screw chart.

SCREW DRIVING SUGGESTIONS

Loading the threads of a screw with soap will make them easier to drive.

When wood screws work loose, they can be tightened by wrapping a small amount of fine steel wool around the threads and re-driving the screw.

Flat-head screws can be prevented from working loose if, after they are properly seated, you strike the head near the rim with a center punch or nail. The displaced metal serves as an anchoring wedge.

In driving screws in end-grained lumber, a tighter joint can be obtained by first drilling a hole through the end of the lumber that will engage the threaded portion of the screw. Drive a dowel into this hole (Fig. 10). Then, when the two pieces are joined, the threaded portion of the screw will be held securely in the inserted dowel.

When trying to remove stubborn and rusty screws, place the screwdriver in the slot of the screw and strike the end of the handle with a sharp hammer blow. This will help break loose small rusty particles and enable you to remove the screw with less difficulty.

Another method of removing rusted screws that are holding metal parts together is to hold a red-hot iron against the screw, until the latter becomes very warm. Then, when allowed to cool, the screw is usually easy to remove. A drop or two of penetrating oil will also help considerably . . . or, if this is not available, even light household lubricating oil or iodine.

In driving screws in masonry where the usual lead plug is not available, the hole in the masonry can be filled with a roll of aluminum foil (Fig. 11) or steel wool. This should be placed snugly in the hole before driving the screw and in a great many cases this procedure will prove very satisfactory.

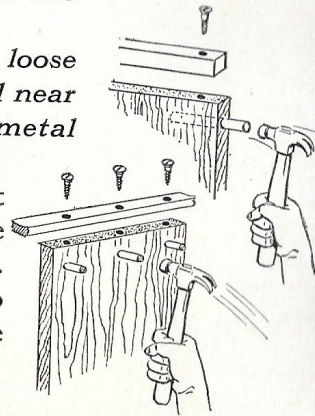


Fig. 10

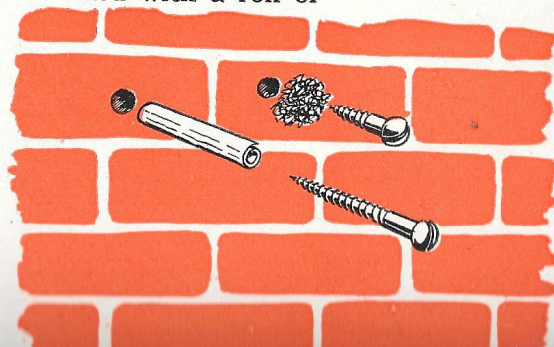


Fig. 11

Sanding-

POWER TOOLS take the hard



Fig. 12

TEDIOUS, tiresome jobs like sanding and polishing are very easy when you do them with power. An electric Sander-Polisher (Figs. 12-13) will do most of your surfacing jobs in jig-time. At the same time, special attachments can be purchased for your Electric Drill, so you can use it for sanding and polishing.

The following hints on sanding and polishing apply equally to whichever tool you use for the job.

SANDING SUGGESTIONS

Use several different grits of paper when you do a job (Fig. 14). Start with a coarse grit, then use medium, then fine—depending upon the final surface desired. Following this procedure will do a better job in less time and will use up fewer sanding discs.

When a very fine surface is desired, do the final operation by hand, using fine grit sandpaper or a pad of steel wool.

Exposure to moisture causes sanding discs to glaze quickly. Always store them in a dry place.

For precise sanding, mount your Sander-Polisher or $\frac{1}{4}$ " Drill in a Horizontal Stand and equip it with a Sanding Table (Fig. 15). This accessory includes a metal sanding plate and a mitre gauge, enabling you to form and finish any material that can be sanded.

Making your own sanding discs for a Sanding Table is a simple matter, since the rigid metal plate permits the use of any kind of abrasive paper or emery cloth. Simply put some disc cement on the metal plate. Stick a piece of abrasive paper or emery cloth to it, and trim around the edges with a knife.

When making what-not shelves, ladder back chairs, or other items with irregular surfaces, the inside cuts can be sanded with the aid of abrasive bands, rolls and points (Fig. 16). A well-planned assortment of arbors, rubber cylinders, and abrasive bands, rolls and points is available in the Black & Decker Utility Abrasive Kit.

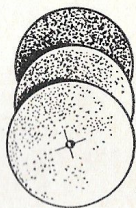
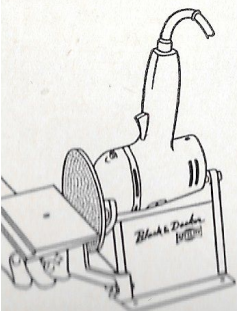


Fig. 14

Fig. 15
HU-1005



Polishing:

work out of these home jobs!



Fig. 13

Plastic materials can be formed accurately and easily by placing your power tool in a Horizontal or Vertical Stand and attaching the proper abrasive bands.

Abrasive bands can also be used to sharpen edged tools, such as knives, chisels, etc.

POLISHING POINTERS

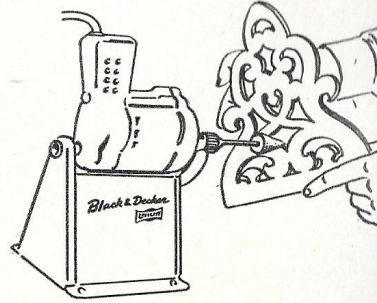


Fig. 16

There are many places around your home where electric power can lighten laborious polishing and waxing jobs. Your automobile should be waxed and polished at least every six months to preserve its appearance. Furniture, especially those pieces exposed to the sun's rays, should be waxed from time to time (Fig. 17). Waxing makes floors, linoleum and window sills look better, stay clean longer. Waxing protects luggage against scratches. And golf clubs, fishing rods, canoe paddles and other lacquered, shellacked or painted surfaces can be kept in tip-top condition with a little waxing at regular intervals.

When power polishing, it's important to remember to apply the wax sparingly. A thin coat will polish faster, look better and last longer than a heavy coat.

Polishing bonnets must be kept clean. Washing in soap and water does a good job. And drying is simple if you attach the bonnet to your Polisher or Drill and spin it dry!

In doing power waxing, remember that a hand wax is not satisfactory for the job. Use B & D Utility Electric Wax for finest results.

Cotton buffing wheels, attached to your power tool by an arbor, have many uses (Fig. 18). Use them to polish silverware, jewelry, household hardware, metal fittings, Plexiglas, and metal toys.

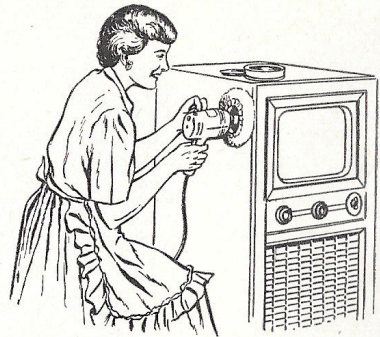


Fig. 17

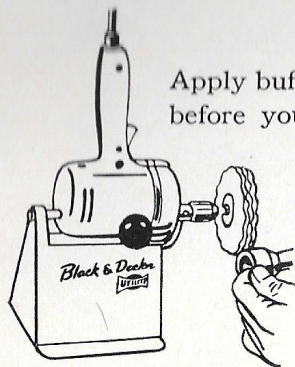


Fig. 18

Apply buffing-polishing compound to the *revolving* cotton wheel before you begin polishing. Apply more as needed. If your cotton buffing wheel starts to produce a smeary finish, hold the edge of a file against the rotating buff to remove excess compound and clean it.

FINISHING FACTS

When preparing surfaces for repainting, use a wire brush to remove the major portion of old and peeling paint. (Use a wire cup brush or wire wheel brush, whichever is most convenient for the type work being cleaned.) Then remove the remainder with an "open coat" sanding disc of proper grit. This will save you the cost of a considerable number of sanding discs.

Wire cup and small wire wheel brushes lose their cutting edge after considerable use. They can be resharpener by holding the *revolving* wire brush against a revolving grinding wheel (Fig. 19).

This will grind square the ends of the wire bristles, setting up sharp points which make them equal to new.

Pieces of broken glass are just the thing for many light scraping operations. (Be careful you don't scrape your fingers in the process . . . wrap a piece of adhesive tape around the end you will hold.)

A pile fabric pad is an excellent attachment to use with a power tool for rubbing down surfaces, removing lacquer "orange peel," etc. It can also be used for polishing and some home craftsmen rate it over the lambswool bonnet for this purpose.

HOW TO POWER POLISH YOUR AUTOMOBILE

Black & Decker Utility Automobile Polish is compounded to produce a clean, lasting finish in one operation. It will dissolve road scum and clean and burnish, as well as seal the surface. The polish should be used wet and applied to an area of convenient size to work quickly before the polish dries. (Fig. 20.) Where the surface is very dull, several applications may be necessary in order to produce the desired result.

The polished surface will retain its lustre for a considerable length of time if the automobile is washed at frequent intervals, and the lustre can further be improved by an application of Black & Decker Utility Wax. The wax should be applied with a damp cloth and very sparingly. A thin coat of wax will last longer and look better than a heavy coat. Always use a clean lambswool bonnet to work the wax out with your power Polisher.

Excess dirt which may have collected on the bonnet can often be removed by merely touching the revolving bonnet lightly to the edge of a bumper. When the bonnet becomes very dirty, remove it from the tool, dip the wool part in a pail of clean water, scuffing it with the hand, then put it back on the Polisher and spin dry. Do not get the back of the bonnet wet.

The most efficient way to polish a car is to work from the top down. Start with the roof, move to the hood, the fenders, the doors, etc., as indicated in the drawing below (Fig. 21). In this way, the slight dust that may be thrown off into the air by the revolving bonnet, will not fall on completed sections. Also you will not be dragging the electric cable over completed portions thereby marring a perfect finish.

On old-type cars there may be a few places which are difficult to reach with a power polisher. In these cases, work with Black & Decker Utility Automobile Polish by hand. When the car has been completely polished, an additional high lustre may be obtained if a few drops of water are sprinkled on the surface and gone over quickly with the Polisher or a clean dry cloth. (If a cloth is used, it is not necessary to rub—merely wipe.)

Fig. 20

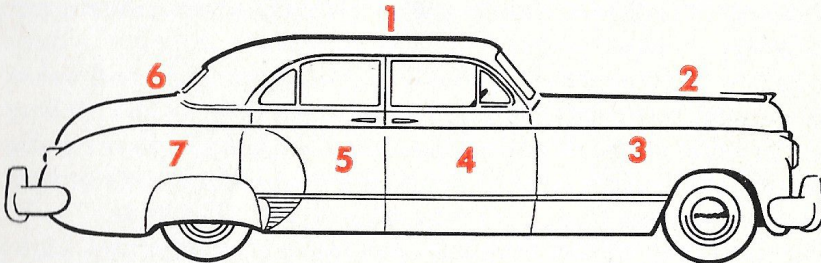
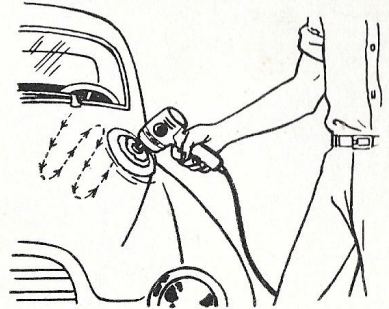


Fig. 21

Grinding-Sharpening

Your POWER TOOL helps you speed

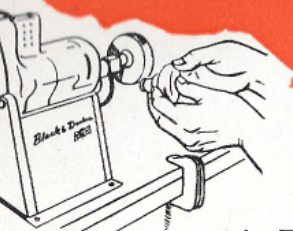


Fig. 22
HU-2302

GRINDING and SHARPENING

A Black & Decker Utility $\frac{1}{4}$ " Drill or Sander-Polisher makes a good power unit for a 3" grinding wheel. Such a combination handles many light grinding jobs and can be used for sharpening knives, hand tools, garden tools and all types of cutting instruments. The tool can be mounted in a horizontal stand for use as a stationary grinder (Fig. 22); or it can be used as a portable grinder for work which is too heavy or bulky to be carried to your workbench.

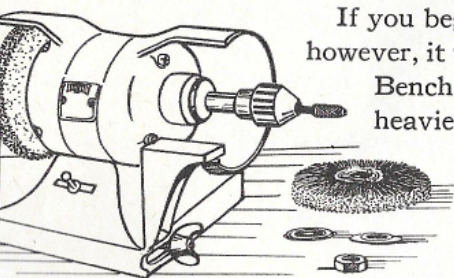


Fig. 23

If you begin doing a lot of grinding in your workshop, however, it will pay you to buy a Black & Decker Utility Bench Grinder, ruggedly built and designed for heavier duty than your Drill or Sander-Polisher. This tool also drives cotton buffing wheels and wire wheel brushes. Equipped with a $\frac{1}{2}$ " chuck (Fig. 23), it drives mounted points, rotary files, reamers, etc.

Grinding Hints

To determine whether a grinding wheel is safe for use, hold it on a wooden dowel or stick, and tap it with a wooden mallet or rawhide hammer. A ringing sound is your go-ahead signal; a dull sound indicates that the wheel is cracked and should not be used.

Never grind on either side or corner of a grinding wheel unless it's impossible to use the face of the wheel (Fig. 24). Grinding on the side of the wheel is hazardous, in that the object being ground can become wedged between the wheel and wheel guard, and at the same time, the wheel might crack or explode.

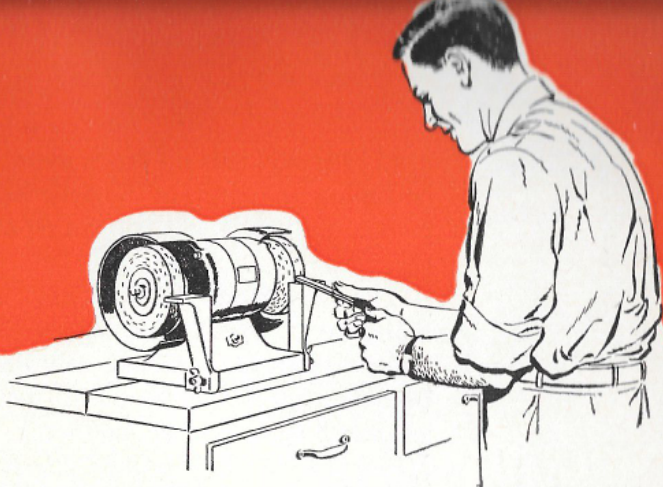
Never force an object into a grinding wheel. Light pressure will prevent burning of the surface being ground, and will prevent the wheel from being

Fig. 24



Honing:

up all these jobs!



loaded. Frequently dipping the object being ground into water will help keep it cool.

When the bristles of a wire brush being used on a Bench Grinder are bent, the brush should be reversed on the spindle, thereby prolonging its life. Large wire wheel brushes can be resharpened by holding a grinding wheel against the face of a rotating brush (Fig. 25).

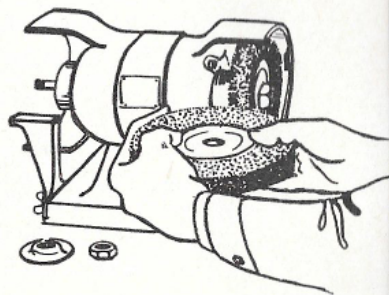


Fig. 25

HONING

A better way to keep knives and small tools of all kinds razor-sharp is to hone them on an oilstone. This is ordinarily a time-consuming job, but it's a snap when you do it with power. Simply buy a Black & Decker Utility Roto-Hone attachment (Figs. 26-27) for use with either a $\frac{1}{4}$ " Drill or Sander-Polisher and a Horizontal Stand. It makes a power-driven oilstone that's ideal for honing chisels of all kinds, plane bits, pocket knives, carving chisels, lathe tools, carving knives, butcher knives, etc.

Made of husky die-cast aluminum, it is equipped with a tool rest that can be raised or lowered to suit the operator . . . and a clamping device that insures the proper bevel in honing plane bits, chisels, lathe tools, etc. The Roto-Hone is so easy to use that it requires no special skill . . . yet it hones to accurate, razor-like sharpness.

The Roto-Hone, as well as most common oilstones, has a coarse and fine side. The coarse side should always be used first, unless the tool being honed is only a little dull. The fine side should always be used for final finish.

Neither grease nor lubricating oil should be used with any oilstone. Using either severely lowers the oilstone's cutting efficiency. Special Roto-Oil is designed for this purpose. When

Fig. 26
HU-1006



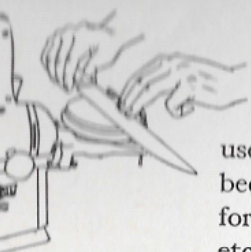


Fig. 27

used liberally, this oil floats metal chips and prevents them from becoming imbedded in the hone itself. Roto-Oil is also excellent for small motors, electric trains and other toys, baby carriages, etc.

The Roto-Hone should always be wiped clean of dirty oil after being used. Fresh Roto-Oil should be put on both sides and the hone stored in a closed container. Should your Roto-Hone become glazed or loaded with metal chips, a good cleaning with gasoline, kerosene, or ammonia will often restore its cutting properties. After cleaning, the Hone should be allowed to soak in Roto-Oil overnight.

KEEP YOUR TOOL ACCESSORIES SHARP!

No matter how well you take care of your electric tools, they will not work properly if you do not keep your bits, augers, blades and other accessories sharp. Also chisels, plane bits, knives and other edged tools must be maintained absolutely sharp. If they are not, work will be difficult, and the finished product will often be very disappointing. Sharpening tools is a simple matter, *if you know how!* Here are some pointers to help you!

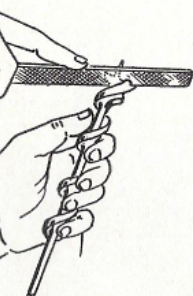


Fig. 28

AUGER BITS are easily sharpened with an auger bit file. (Your dealer will be glad to help you select one). Before attempting to file an auger, coat the inside of the spurs and the upper cutter edges with thin nail polish. Following this procedure will enable you to see just where the file is contacting the surface and make any necessary corrections so as to maintain the proper angle. In sharpening, rest the bit on a board with the point up (Fig. 28). Lightly file the brad point, maintaining the angle that was originally established. Draw a file lightly on the inside of the spur. Never file the spur on the outside as it will destroy some of the clearance of the bit, and definitely impair some of its usefulness. To sharpen the cutters, rest the bit on a board with the point down (Fig. 29). File the cutters on the upper edge only. The amount of material removed from each cutter should be the same so that they are on the same level and will cut chips of equal thickness.

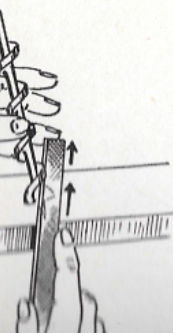


Fig. 29

TWIST DRILLS Twist drills, normally used for general purpose work, have cutting lips ground to a 59° angle (Fig. 30). These lips must be kept sharp and of equal length, with the point on dead center. Dull bits waste your time and energy, and do slow, unsatisfactory work.



Fig. 30

MASONRY DRILLS Masonry Drills can be resharpened on a grinder equipped with silicon carbide wheels of 80 or 100 grit. In resharpening, it is well to follow the original angle and use a new drill bit as a guide for resharpening, so that when re-ground, it is approximately the same shape. In grinding, use moderate pressure against the grinding wheel to prevent overheating, and *do not dip in water to cool*, as the sudden temperature changes may cause fractures in the carbide tip.



Fig. 31

ELECTRIC SAW BLADES It is important that saw blades be kept sharp at all times. A dull blade will cause the saw to creep and do an unsatisfactory job. It will put a strain on the motor as well as the operator, and the heat generated by a dull blade may ruin it.

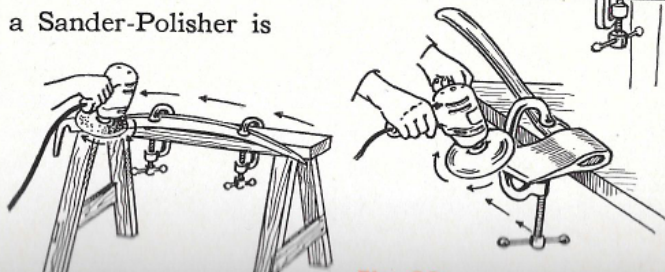
The yellow pages of your phone directory will give you the names of companies near you who are equipped to recondition saw blades. However, they can be touched-up by the operator with an ordinary mill file.

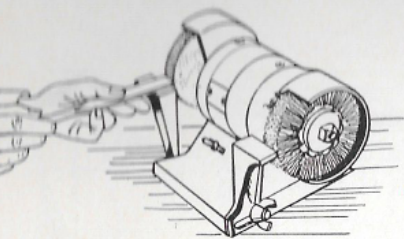
Before attempting to file a saw blade, paint each tooth with a thin nail polish. Then when filing, as the polish is removed, the operator can see exactly the position of the file and make the necessary corrections. Follow the original bevel when filing a saw blade and remove the same amount of metal from each tooth.

A simple fixture can be made for holding saw blades when they are being filed. Two pieces of wood (Fig. 31) are all that are required. These pieces can be hinged at the bottom or can be used as two loose pieces. With a fixture of this type, a minimum of chatter takes place while the saw teeth are being filed.

LARGER TOOLS A Sander-Polisher or $\frac{1}{4}$ " Drill with abrasive discs is handy for sharpening larger tools.

(Fig. 32) shows how a Sander-Polisher is used to sharpen a scythe, an axe and a sickle bar.





HOW TO HOLLOW GRIND AND HONE CHISELS, PLANE BITS AND OTHER EDGED TOOLS

Fig. 33

Hollow grinding chisels and other edged tools can be done by anyone if a few simple rules are followed. The first thing that must be remembered is that in grinding tools they should contact the revolving grinding wheel always in the same position. The best general purpose bevel on a wood chisel is 30° , and this degree of bevel is automatically obtained by making the grind on the chisel twice the thickness of the metal.

Before grinding the chisel, it should be squared properly and all nicks removed from it. This is best accomplished by laying the chisel on the tool rest of the grinder with the bevel down, and passing the edge lightly back and forth across the face of the grinding wheel, until all nicks are removed (Fig. 33).

The chisel holding attachment that is furnished with the Roto-Hone is placed on the side of the chisel at a point along its length so that when it rests under the forward edge of the tool rest of the grinder, the chisel will contact the wheel at the correct angle (Fig. 34).

A drop of oil placed on the edge of the tool rest will facilitate free moving of the chisel holder as it is passed back and forth across the face of the revolving grinding wheel.

The grit and grade of grinding wheel will determine the fineness of the finish. A general purpose wheel such as furnished with the Black & Decker Utility 6" Bench Grinder is ideal for grinding chisels. Very fine grinding wheels will have a tendency to burn the chisel more than a medium or coarse wheel.

In passing the chisel back and forth across the rotating wheel, very light pressure should be applied and the tool should be dipped in water frequently to cool it, and the grinding should continue until a wire edge appears on the reverse side of the chisel. The chisel clamp should not be removed from the chisel until it is completely ground and honed.

The Roto-Hone is used to remove the wire edge from the chisel (Fig. 35). Without removing the chisel clamp-

Fig. 34



ing device, adjust the round guide bar on the Roto-Hone either up or down so that the forward cutting edge of the chisel contacts the hone. The heel of the chisel should be slightly raised.

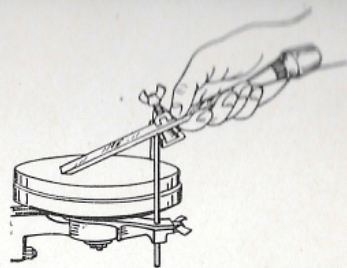


Fig. 35
HU-1006

The coarse side of the hone should be used first, after which the fine side should be used for the finish honing with light pressure. When honing a chisel, it should be moved across the face of the rotating hone against the guide bar so as to wear the hone evenly, and it is important to use a generous quantity of Roto-Oil when performing this operation.

Never use lubricating oil or grease on an oil stone. The chisel should be turned over frequently until the wire edge is completely removed. With a little practice and patience on the part of the operator, expert results can be obtained, and while chisels were used as an example, the same operation would apply to plane bits and other edged tools.

The illustrations (Fig. 36) show somewhat exaggerated conditions of a wood chisel in the various stages from before grinding to finished honing.

- # 1—Shows chisel that requires grinding.
- # 2—Shows chisel after hollow grinding—the concavity comes from the curve of the grinding wheel.
- # 3—Shows the position of the chisel when being honed.

It's easy to make a device for holding chisels and plane bits so that they can be properly and accurately ground if the Roto-Hone chisel holding attachment is not suitable. Two pieces of $\frac{3}{16}$ " thick steel, about $\frac{1}{2}$ " wide, and long enough to accommodate your widest bit, two screws and two wing nuts are all that are needed.

Holes are drilled in the pieces of steel through which the screws are placed, and the chisel or plane bit is held between the two pieces of steel by the wing nuts. The chisel or bit can then be adjusted with a square so that the edge of the chisel is ground at right angles to its side.

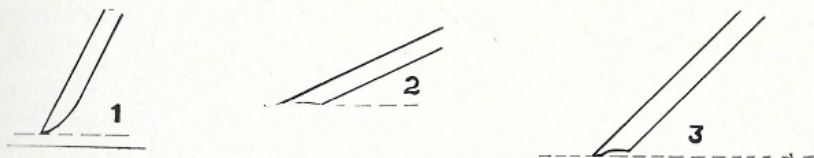


Fig. 36



Filing:

***Good care helps these
hand tools work better***

THERE are some 3,000 different types and sizes of files manufactured but only six or eight files are needed for the average home workshop. Your dealer will be glad to assist you in selecting these files for general use.

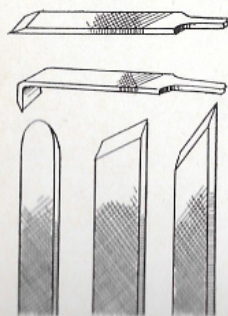
It is poor judgment to use files without handles on them as the pointed tang can easily injure the operator. In using files, apply just the right amount of pressure. The file should cut at all times under normal pressure and on the forward stroke. Too light a pressure will soon dull the teeth of the file, and too heavy pressure will clog the file.

It is well to remove the file from the work on the reverse stroke, and in using files they should be tapped frequently on wood to dislodge chips. Files will last longer and stay sharp if they are hung in a rack, rather than tossed in a drawer or box. Their life can be further lengthened by frequent cleaning with a file card, which can be purchased from your dealer.

Don't throw away dull and worn out files. They can be made into many very useful tools. A great many files can be bent to various shapes. To do this, the files should be heated to a cherry-red and then allowed to cool slowly, after which they can be formed. To reharden, they should again be heated to cherry-red and plunged into cold water. Where a smooth surface is wanted, the teeth can be ground off the file.

The sketches shown here (Fig. 37) are some of the various hand tools that can easily be made with discarded, worn out files.

Fig. 37



Sawing:

Power Sawing is ten times faster than hand sawing!



MOST portable electric saws are equipped with universal motors that operate with equal efficiency on either alternating or direct current at the voltage specified on the name plate of the saw.

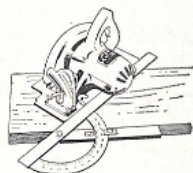
In using portable electric saws, the front part of the saw shoe should be rested on the material being cut before starting the motor, being sure that the blade is not in contact with the work. Then start the motor and advance the saw through the material at a sufficient speed to permit free cutting of the blade.

If the saw is forced into the material excessively, cutting will be actually slowed down, a very poor cut will result, and at the same time, the saw blade will overheat, which may reduce its temper. Select the proper blade for the type of cut wanted. The few minutes required to change the blade is nothing compared to the improved results that can be obtained.

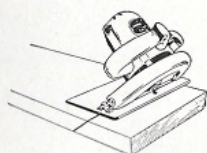
A wide selection of blades is available. Black & Decker Saws (Fig. 38) come equipped with a Combination Blade for general-purpose ripping and crosscutting (Fig. 39). These blades are the



Cross Cut



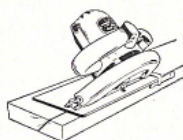
Miter



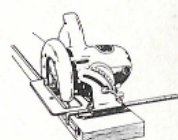
Bevel Cut-off



Jack Rafter



Bevel Rip



Rip

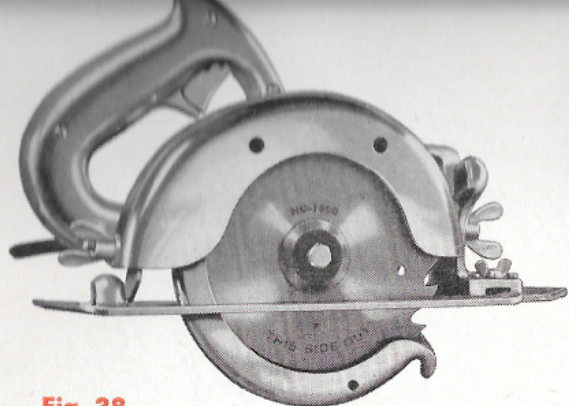


Fig. 38

latest type with fewer teeth than standard blades . . . for smoother cuts, less wear, longer time between sharpenings. See page 48 for full details.

The Planer Blade (Fig. 40) is a *hollow-ground* blade that actually planes the edges of the cut as the cut

is made, leaving it very smooth. This type blade is usually used for interior trim work.

The Cross-Cut Blade will make a much smoother cut than will the Combination Rip and Cross-Cut Blade when cross-cutting lumber.

When cutting reclaimed lumber, there is always a possibility of striking a hidden nail. Therefore Nail Cutting Blades should be used. Even this blade will require sharpening after cutting several nails.

Abrasive Discs (Fig. 41) are also available which can be used for cutting material such as slate, asbestos, tile, etc., and can also be used for cutting thin-gauge metal.

A new development in saw blades is the Carbide-Tipped Blade. This blade has carbide tips cemented to the cutting teeth, and will cut composition material much faster than an abrasive disc and will normally stay sharp much longer than standard type saw blades if used for cutting wood.

It is well always to have several sharp blades available for changing as needed. Electric saws should be disconnected from the current supply when blades are changed, when adjustments are made on them, and when not in use. Under no circumstances should you attempt to make any adjustments while the blade is in motion.

When the saw is equipped with a depth attachment, use it. The depth should be slightly more than the thickness of the material being cut. The depth of one full tooth below the material being cut is usually sufficient.

When you use a portable electric saw a considerable distance from the power source, be sure the extension wire is the correct size for the distance and the size of the saw. Undersize wire prevents full power from reaching the saw, decreases its working



Fig. 39

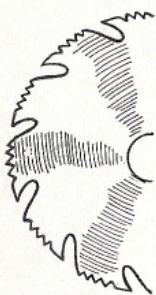


Fig. 40

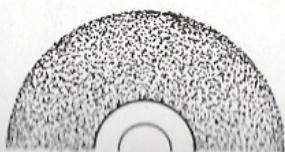


Fig. 41

capacity and slows up your work. Use the table below to determine the correct size cable for 115 volt current, according to the length of extension.

SAW	25 ft.	50 ft.	75 ft.	100 ft.	200 ft.
6"	16 ga.	14 ga.	12 ga.	10 ga.	8 ga.
8"	14 ga.	12 ga.	10 ga.	8 ga.	6 ga.

SAW PROTRACTOR

The Saw Protractor (Fig. 42) is a very simple device which enables the operator to use a portable electric saw for precision cutting. It is adjustable so that practically any angle can be cut. The angle is first set, then the Protractor placed on the board and the shoe of the saw guided against the straight edge which serves as a portable fence.

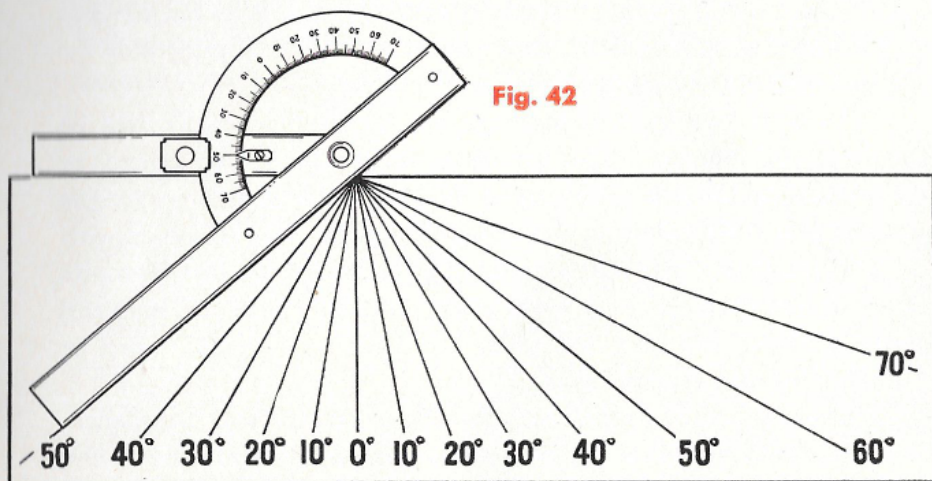


Fig. 42

The Protractor is also very useful in laying out all sorts of carpentry and construction work involving angles.

To make a dado cut with a portable electric saw, a series of adjacent saw cuts of the proper depth can be made, after which the material can be removed with a chisel (Fig. 43).

Discarded record albums make ideal holders for circular saw blades. A thin coating of wax applied to saw blades and other shop tools will keep them from rusting.

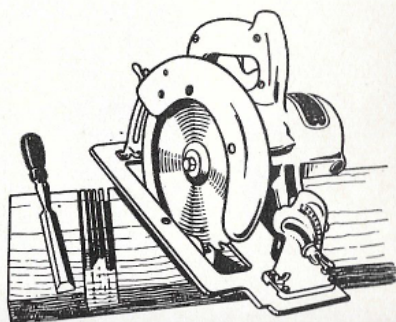


Fig. 43
HU-1812

Home Workshop

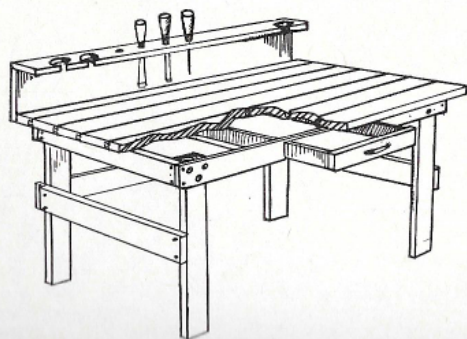
BUILD A WORK BENCH

A work bench is the most used piece of equipment in the shop. Therefore, it pays to build a good one. Where space does not limit the size of the bench make it as large as possible. It seems like work benches are never big enough. The average size top on work benches is approximately 30" x 60", and the height ranges from 30" to 34".

The most important feature of a work bench is its height; and in building it, make the height one that will be comfortable for you both for standing or sitting on a stool.

Dressed two by four inch lumber for the framework will be very satisfactory. The stringers should be either bolted or screwed to the legs. The top of the bench can be made of tongue and grooved lumber or just straight boards. For added appearance, the top of the bench can be covered with tempered Masonite or similar material. If a cover is put on top of the bench, it should be screwed down so that when the front edge wears, it can be removed and reversed.

Boards can be laid across the lower stringers of the bench, which will provide a generous size shelf on which lumber or any other material could be stored. When completely assembled, the bench should be sanded, then given several coats of paint or varnish on the framework and several coats of varnish on the top.



Attach a 1"-thick board (anywhere from 2" to 4" wide) to the back of the workbench, about a foot above the bench, in a horizontal position. This makes an ideal rack for tools. Merely drill the proper size holes in this board, and you can insert screwdrivers, chisels, pliers, etc.

Projects:



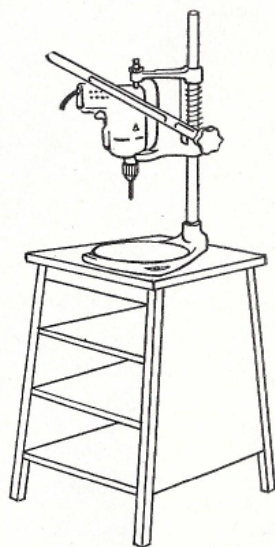
For supporting planes, "C" clamps and other tools that do not have handles, drill the back board of the work bench to accommodate $\frac{1}{2}$ " dowels. Extend the dowels sufficiently, so that the tools can be rested on them. Some craftsmen prefer building small shelves on the back board for storing tools of this type.

BUILD A PEDESTAL FOR YOUR BENCH DRILL STAND

It is easy to build a pedestal on which to mount your bench drill stand. The illustration shown at the right will give you the approximate details. The top for the $\frac{1}{4}$ " bench drill stand should be approximately 9" x 11", and the top for the $\frac{1}{2}$ " bench drill stand should be approximately 9" x 12".

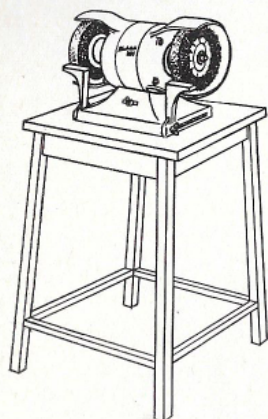
The height of the pedestal should be one that is comfortable to the operator. It is recommended that 2" dressed lumber be used for framing throughout the construction of this pedestal, and it should be either screwed or bolted together. When it is completed, it should be sanded and given several coats of paint or varnish.

In using a pedestal of this type, the bracket assembly can be turned 180°, to drill large objects by using the floor as a base.



BUILD A STAND FOR YOUR BENCH GRINDER or HORIZONTAL DRILL STAND

A stand for your bench grinder or horizontal stand will save space on top of the work bench and be generally useful.



The top dimensions should be 10" wide by 9" deep. Two-inch dressed lumber is recommended for the top, legs, and braces. The height should be one that is comfortable for the operator to use.

The pedestal could be enclosed, using plywood, and shelves placed in it whereby it would serve as a storage room for the grinder accessories. The pedestal should be sanded, then varnished or painted a color to suit you.

Miscellaneous Home Tips

An engine finish (like the inside of a watchcase) can be obtained by using a dowel in the chuck of your electric tool. Glue a small piece of felt to the end of the dowel and glue abrasive papers to the felt.

Never apply glue to any surface unless that surface is perfectly dry. A heat lamp is very useful for drying joints that are to be glued together.

A package of cleansing tissues is handy around the shop especially for wiping glue off fingers and surplus glue from glued joints.

To repair a knot-hole drive a few tacks in the periphery of the hole to be repaired, (Fig. 44) after which Plaster of Paris or similar compounds can be used to fill the hole. An excess quantity of material should be used and after it has dried, it can be sanded flush with the adjoining surface.

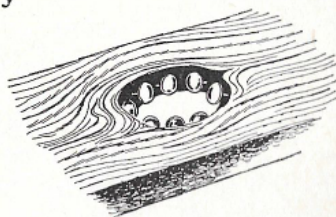


Fig. 44

Painting shutters is a very difficult job to do under normal circumstances. In most instances one side of the shutter is painted, then it is turned over, the other side painted, and the surplus paint runs through the side painted first, which makes for quite a messy job.

There is an easy way to paint shutters, however (Fig. 45). First, secure small brass hooks from your hardware store. Screw them to the bottom edge of the shutter, a distance apart so that the shutter can be hung on an ordinary coat hanger.

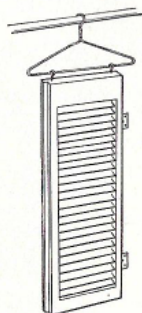


Fig. 45

Then paint both sides of the shutter in the usual way, except for a portion of the shutter in the center. Then hang the shutter on the coat hanger as shown in the illustration. This will enable you to complete the painting as well as pick up the surplus paint. Following this procedure will permit drying of the paint uniformly.

If, in replacing window panes, the window frame is first painted with a coat or two of paint, the putty holding the glass will adhere much longer as the wood will not absorb the oil from the putty.



Fig. 46

When opening a new can of paint, remove the lid carefully so as not to distort it. Before stirring, punch a number of holes with a hammer and nail in the recess of the rim of the can (Fig. 46). Then, the paint that slops up into the rim when stirring will drop back into the can through the punched holes instead of spilling over on the outside of the can.

When re-sealing the can, to prevent paint splatter, cover the lid with a rag or newspaper and tap the lid tightly around its circumference after which store the can in an inverted position, thereby assuring a perfect seal.

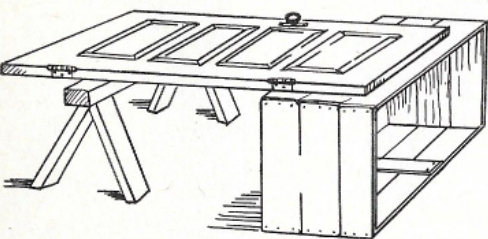


Fig. 47

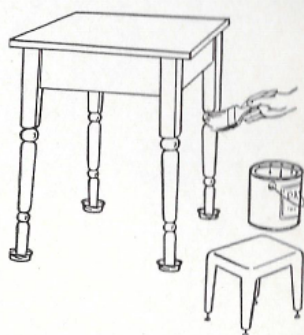
It is easy to do a professional job in painting or enameling a door. For best results, the door should be removed from the door frame by removing the hinge pin or the hinges themselves.

The door should be laid flat on either a saw horse or a box where the paint or enamel can be put on without fear of any runs (Fig. 47). It should be allowed to dry several days and re-hung; the result is a professional job.

Popsicle or Good Humor sticks come in very handy for stirring small cans of paint and for applying glue.

When painting chairs, tables, etc., or removing paint with paint remover, it is best to spread several layers of newspaper on the floor and place the feet of the object in a jar lid or milk bottle top (Fig. 48). Or, a nail can be partly driven in the leg of the chair. By doing this, the paper will not stick to the bottom of the legs.

Fig. 48



HOW TO ENLARGE OR REDUCE A DRAWING

You don't require artistic ability to either increase or decrease the size of a drawing. Merely take the original drawing and lay it off in squares, as shown in the accompanying sketch. Then draw an equal number of squares either larger or smaller, depending on whether you want to increase or decrease the size of the drawing, and then follow the lines on each square. You can start anywhere you like, but duplicate the lines in the squares as closely as possible.

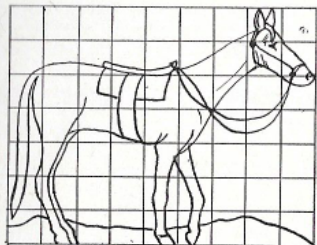
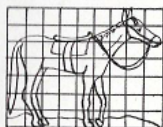
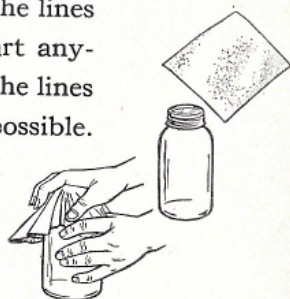


Fig. 49

A piece of fine-grit sandpaper comes in handy for removing stubborn jar lids (Fig. 49).



Fine-grit sandpaper wrapped around the handle of a screwdriver will help to prevent slippage (Fig. 50).

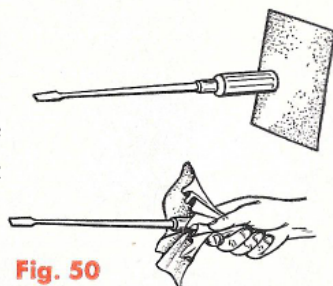


Fig. 50

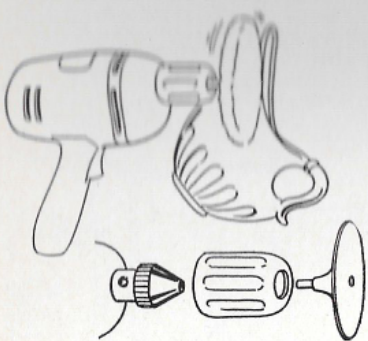


Fig. 51

A rubber crutch foot placed over the chuck of your electric drill (Fig. 51) when it is mounted in the Horizontal Stand and used for polishing, will serve as a protector to the object being polished, in the event it should accidentally contact the chuck. The rubber crutch foot will also serve as a protector for the chuck itself when the tool is stored or transported in a box with other tools.

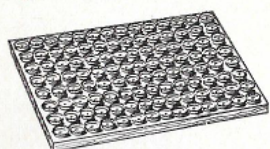
A rubber crutch foot placed on a hammer head will oftentimes prove to be an effective soft hammer.

Small paper cups make ideal containers for mixing powdered glue. After their use, they can be discarded.

Cellophane adhesive tape comes in handy for wrapping around the rough handles of tools.

When driving nails in plaster, the plaster will often crack. In most instances, this can be avoided by placing a piece of cellophane tape on the spot where the nail is to be driven. Another way to prevent plaster from cracking is to drill a hole in the plaster about $\frac{1}{4}$ " deep before driving the nail.

Fig. 52



A series of bottle caps nailed upside-down to a board will serve as a satisfactory boot scraper (Fig. 52). The size board can be varied to suit the individual.

Wet snow usually sticks to the snow shovel. This can be retarded usually if the shovel is given a generous coat of B&D Utility Wax or paraffin before shoveling the wet snow.

Dipping the threaded portion of a bolt in shellac before applying the nut will prevent rust formation and enable you to remove the nut at a later time without difficulty.

When using a ladder where the footing is uneven, it is dangerous to prop it up by using bricks or some other object. The safest way (Fig. 53) is to fasten a piece of 2 x 4 or other suitable lumber to the side of the ladder in order to level it. This piece of lumber can be held in place with two "C" clamps.

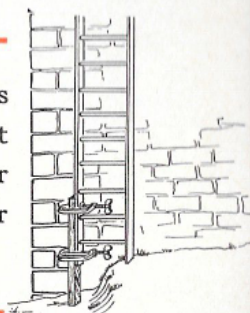


Fig. 53

Step ladders used around the home often mar the floor and quite frequently they slip, causing injury. This can be avoided very easily by using rubber from a discarded inner tube, which is cut in strips, fastened under the feet of the step ladder, and tacked along the sides (Fig. 54). This will protect the floor and also prevent the ladder from slipping.

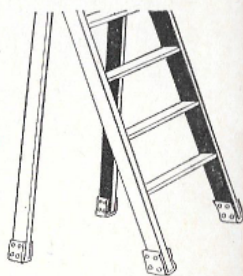
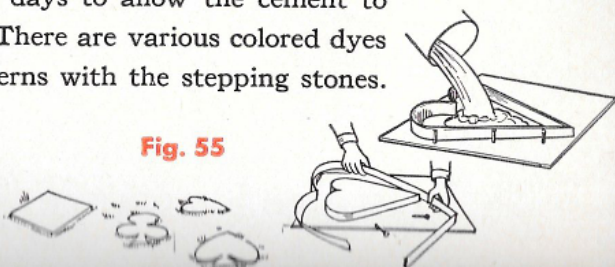


Fig. 54

Stepping stones of various shapes and designs can be readily made of cement. All that is required is a mould made from some sheet metal about 2" wide and a board of sufficient size to suit the size stone wanted. The sheet metal is formed either with dowels or nails, as shown in the accompanying sketch (Fig. 55). The board should be coated with used crank-case oil before filling the form with cement. Chicken wire can be added to strengthen the stepping stones. They should be covered with burlap bags or straw and kept moist for several days to allow the cement to properly cure and become hard. There are various colored dyes available to make attractive patterns with the stepping stones.

Fig. 55



Driving nails at an angle, or toenailing, is quite an art. It is easy, however, for a novice to do this merely by placing a block of wood alongside the stud, which is held in place with a "C" clamp, so it cannot move while the nail is being driven (Fig. 56).

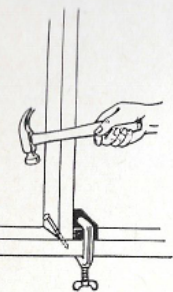


Fig. 56

Don't discard that old felt hat. Three-inch diameter discs can be cut from old felt hats, and holes put in the center of them so that they will fit on an arbor. A number of these pieces of felt, when placed on an arbor, will serve as an ideal buffing wheel and will be particularly useful in polishing Plexiglas and silver. Apply B&D Utility Polish to the rotating felt and use in the same manner as you would any other buffing wheel.

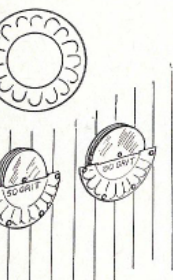


Fig. 57

An easy way to store sanding discs is to take small pie plates, cut them in half, and tack the rim of the plate to the wall (Fig. 57). This will serve as a pocket for sanding discs and the grit of paper can be marked on the pie plate for easy identification.

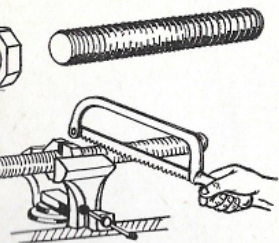


Fig. 58

When necessary to alter a threaded bolt or other object with threads on it without damaging the thread, the best procedure to follow would be to secure a nut that fits the thread. Then with a hack-saw, saw a slot in the nut,

run it on the threaded object, then hold the object in a vise with the nut contacting the vise jaws, as shown in the accompanying illustration (Fig. 58).

If you have difficulty in storing large hand tools, particularly garden tools, here's an easy way to do it. Nail chicken wire to the studs of your garage or workshop (Fig. 59). Then you can place larger hand tools behind the wire or hang smaller tools on the wire where they are readily seen.

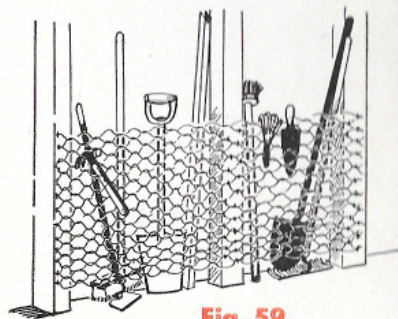


Fig. 59

Long ladders are more easily handled if they are equipped with a pair of wheels (Fig. 60). These can be taken from worn out tricycles or broken kiddie-cars. A piece of steel rod is placed through the top end of the ladder and the wheels mounted on it. They can be held in place by merely drilling a hole through the axle and inserting a cotter pin. Then the user can both wheel the ladder along, and use the wheels to assist in elevating the ladder against the building.



Fig. 60

It is easy to make a tamper, which is often required around the home. A tamper of the size to suit you can readily be made by using a broomstick or piece of pipe and a flower pot (Fig. 61). First, the bottom of the flower pot is removed. Then, holes are drilled in the broomstick or pipe, in which large nails are placed. The flower pot is then placed on a board, partially filled with a good mix of cement, and then the broomstick inserted, after which the pot is completely filled with cement. Small pieces of chicken wire or other reinforcing material will strengthen the tamper.

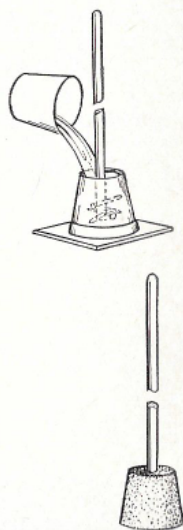


Fig. 61

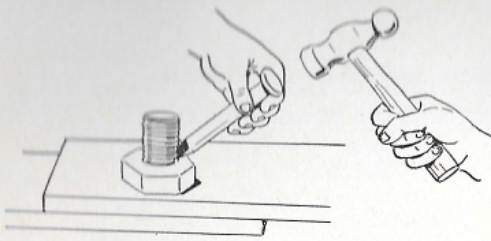


Fig. 62

(Fig. 62). This will prevent the nut from working loose, but it can readily be removed with the proper wrench.

When necessary to lock a nut on a bolt, where lock washers are not available, mash the threads of the extending bolt near the nut, with a cold chisel after the nut has been tightened

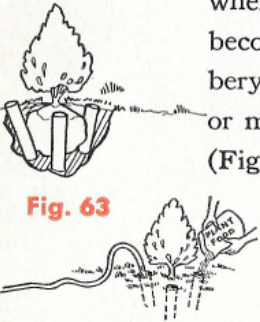


Fig. 63

Valuable shrubs are usually sold with a large ball of earth and when planted, it is difficult to water them sufficiently until they become thoroughly established. One way to be sure your shrubbery does receive adequate moisture is, when planting, insert one or more sections of drain tile in the ground adjoining the plant (Fig. 63). The plant can then be watered and fed through the tile, and a flower pot saucer placed on top of the tile to prevent trash from getting in the hole. After the plant has become thoroughly established, the tile can be broken away.

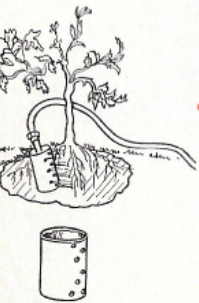


Fig. 64

Tomato plants consume a considerable amount of moisture. If when placing them in the ground, you place adjacent to the plant a tin can that has holes drilled in its sides, the plant can then be watered merely by filling the cans with a hose (Fig. 64).

When tapping threads in a blind hole, if the hole is first filled with oil it will tend to force chips out of the hole, as the tap enters, and at the same time the oil will lubricate the tap.

If your workshop is cramped for space on which to mount hand tools and accessories, a panel hinged to the rafters will give you extra storage space (Fig. 65). This is usually accomplished by

securing a piece of plywood of the width and length that you require. Fasten to it two angle irons that can be purchased from your hardware dealer. These serve to hinge the panel to the rafters, when attached with round head wood screws. The illustration shows the method of mounting.

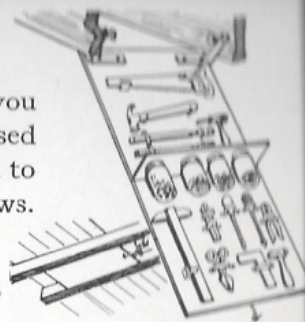


Fig. 65

A tack rag proves to be of considerable aid in making projects dust-free before applying paint, varnish, and other finishes. Tack rags are usually sold through hardware stores; however, they are easy to make. All that is needed is a piece of clean cloth, some turpentine, and some varnish.

Saturate the rag with turpentine, wring it partially dry and then place varnish on it. Distribute the varnish through the rag by squeezing it and wringing it out. Then wipe it over the project to pick up all dust, dirt and lint. Reversing the rag at intervals will also help.

After using a tack rag, fold the material tightly and put it in a closed jar or can for future use to prevent fire hazard and keep moist.

Small jars are ideal containers for small nails, screws, nuts, etc. Labels showing the contents of the jar can be placed on them with cellophane tape, making the labels more or less permanent. A handy way to store the jars is to nail the lid to a shelf or rafter and then screw the jar into the lid (Fig. 66).

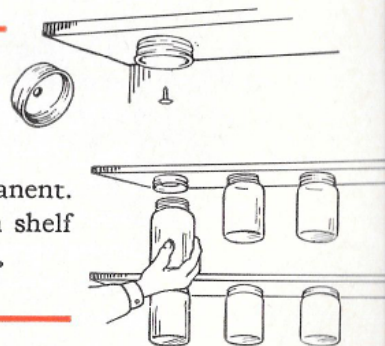
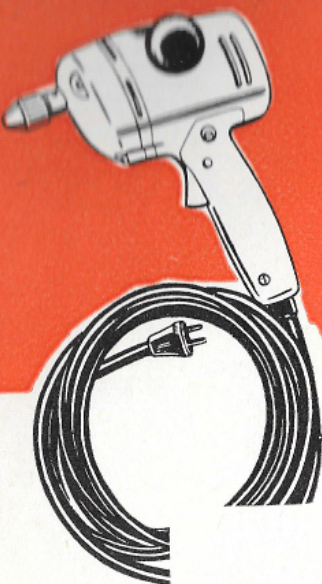


Fig. 66

When it is necessary to remove plated nuts without damaging the plating, wrap adhesive tape around the nut before applying the wrench. This will usually prevent the surface from being marred.

Corrugated cardboard can be made to imitate a tile roof on toy houses. First the cardboard is glued on the roof of the house, and when dry it is painted the desired color. If a glossy finish is wanted, the first coat should be either shellac or varnish.



Electric Tool

Careful maintenance pays off

ELECTRIC TOOLS, like other mechanical equipment, should be given reasonable care if you are to get maximum usefulness from them. By following the few simple suggestions on these pages, you can help extend the life of your electric tools over many years of useful service. Don't waste their possibilities; don't rob yourself of their help by neglecting the care that will keep them working for you.

The Electric Cable is the "life line" of your electric tool. If the cable is abused or damaged, the tool will fail to operate, no matter how carefully you treat the other parts of the tool. When your electric tool is not in use, hang it up with the cable coiled loosely—no sharp bends or kinks. Keep the cable clean and away from oils and greases which ruin the rubber. Don't drag the cable across rough or sharp surfaces. Don't drag the tool around by its cable. This not only kinks the cable and strains electric connections but also will scar up the tool and bend or break attachments.

When using any electric tool at a distance from the source of current supply, always use the correct size extension cord. Ordinary lighting cord is not heavy enough and, if you use it, the power of the tool will be considerably reduced.

On electric tools with a full-load ampere rating up to 2.00, use 18 gauge wire up to distances of 100 feet from the source of current supply. On tools with a full-load ampere rating of 2.10-3.40, increase this to 16 gauge for a 100 foot distance. See page 22 of this booklet for special table on portable electric saw cables.

Maintenance:

in extra years of service

LUBRICATION

To avoid undue wear to bearings and gears, a portable electric tool should be lubricated at regular intervals. Remove the gear case . . . wash out the old grease with kerosene . . . and replace with fresh grease. Tools out of service for a long time should be completely re-lubricated before using. If you own a B&D Tool, consult your "Use Handbook" for details and consult your nearest B&D Service Station for the correct lubricant to use.

COMMUTATOR and BRUSHES

The carbon brushes on electric tools should be inspected frequently and replaced when badly worn. Replace weak brush springs. Keep brushes clean and sliding freely in their guides. Keep the commutator clean and smooth. Rub it very lightly with fine sandpaper (not emery cloth) while turning it on a lathe. If badly grooved, turn it down on a lathe or send armature to be repaired—to one of our Service Stations if it is a Black & Decker Tool. Keep all soldered lead connections tight; re-solder if loose.

GROUNDING

For the protection of the operator, it is always well to ground any portable electric tool. See Guide Book furnished with each Black & Decker Utility Tool for complete grounding instructions.



Materials

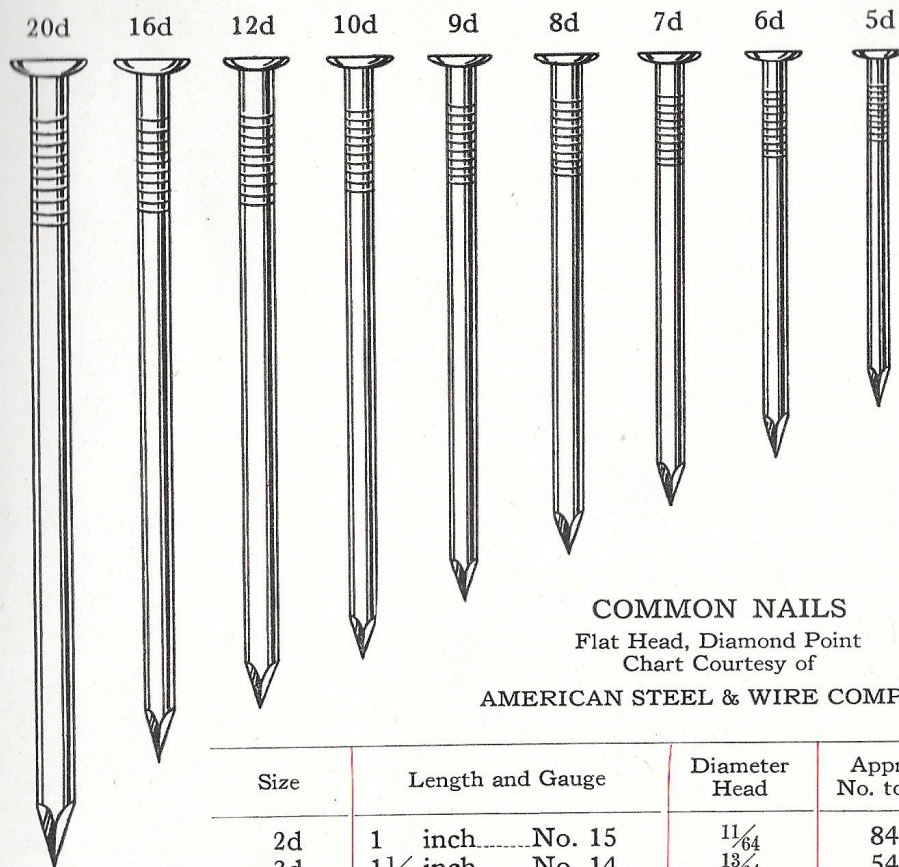
SCREW CHART

Drill and Bit Sizes for Shank Clearance
Pilot and Counterbore Holes

SIZE OF SCREW	BIT OR DRILL SIZES						AUGER BIT FOR COUNTER- SINK (By 16ths)
	SHANK HOLES		PILOT HOLES				
	Drill number or letter	Drill Size nearest fraction	Hard Wood		Soft Wood		
			Drill number or letter	Drill size nearest fraction	Drill number or letter	Drill size nearest fraction	
0	52	$\frac{1}{16}''$	70	$\frac{1}{32}''$	75	$\frac{1}{64}''$	—
1	47	$\frac{5}{64}''$	66	$\frac{1}{32}''$	71	$\frac{1}{32}''$	—
2	42	$\frac{3}{32}''$	56	$\frac{3}{64}''$	65	$\frac{1}{32}''$	3
3	37	$\frac{7}{64}''$	54	$\frac{1}{16}''$	58	$\frac{3}{64}''$	4
4	32	$\frac{7}{64}''$	52	$\frac{1}{16}''$	55	$\frac{3}{64}''$	4
5	30	$\frac{1}{8}''$	49	$\frac{5}{64}''$	53	$\frac{1}{16}''$	4
6	27	$\frac{9}{64}''$	47	$\frac{5}{64}''$	52	$\frac{1}{16}''$	5
7	22	$\frac{5}{32}''$	44	$\frac{3}{32}''$	51	$\frac{1}{16}''$	5
8	18	$\frac{11}{64}''$	40	$\frac{3}{32}''$	48	$\frac{5}{64}''$	6
9	14	$\frac{3}{16}''$	37	$\frac{7}{64}''$	45	$\frac{5}{64}''$	6
10	10	$\frac{3}{16}''$	33	$\frac{7}{64}''$	43	$\frac{3}{32}''$	6
11	4	$\frac{13}{64}''$	31	$\frac{1}{8}''$	40	$\frac{3}{32}''$	7
12	2	$\frac{7}{32}''$	30	$\frac{1}{8}''$	38	$\frac{7}{64}''$	7
14	D	$\frac{1}{4}''$	25	$\frac{9}{64}''$	32	$\frac{7}{64}''$	8
16	I	$\frac{17}{64}''$	18	$\frac{5}{32}''$	29	$\frac{9}{64}''$	9
18	N	$\frac{19}{64}''$	13	$\frac{3}{16}''$	26	$\frac{9}{64}''$	10
20	P	$\frac{21}{64}''$	4	$\frac{13}{64}''$	19	$\frac{11}{64}''$	11
24	V	$\frac{3}{8}''$	1	$\frac{7}{32}''$	15	$\frac{3}{16}''$	12

Charts:

COMMON NAILS



COMMON NAILS

Flat Head, Diamond Point
Chart Courtesy of

AMERICAN STEEL & WIRE COMPANY

Size	Length and Gauge	Diameter Head	Approx. No. to Lb.
2d	1 inch.....No. 15	$\frac{11}{64}$	847
3d	$1\frac{1}{4}$ inch.....No. 14	$\frac{13}{64}$	543
4d	$1\frac{1}{2}$ inch.....No. $12\frac{1}{2}$	$\frac{1}{4}$	294
5d	$1\frac{3}{4}$ inch.....No. $12\frac{1}{2}$	$\frac{1}{4}$	254
6d	2 inch.....No. $11\frac{1}{2}$	$\frac{17}{64}$	167
7d	$2\frac{1}{4}$ inch.....No. $11\frac{1}{2}$	$\frac{17}{64}$	150
8d	$2\frac{1}{2}$ inch.....No. $10\frac{1}{4}$	$\frac{9}{32}$	101
9d	$2\frac{3}{4}$ inch.....No. $10\frac{1}{4}$	$\frac{9}{32}$	92
10d	3 inch.....No. 9	$\frac{5}{16}$	66
12d	$3\frac{1}{4}$ inch.....No. 9	$\frac{5}{16}$	61
16d	$3\frac{1}{2}$ inch.....No. 8	$\frac{11}{32}$	47
20d	4 inch.....No. 6	$\frac{13}{32}$	29
30d	$4\frac{1}{2}$ inch.....No. 5	$\frac{7}{16}$	22
40d	5 inch.....No. 4	$\frac{15}{32}$	17
50d	$5\frac{1}{2}$ inch.....No. 3	$\frac{1}{2}$	13
60d	6 inch.....No. 2	$\frac{17}{32}$	10

DECIMAL EQUIVALENTS

Fractional Size Drills Inches	Wire Gauge Drills	Decimal Equivalent Inches	Tap Sizes Size of Threads Thread per inch
$\frac{1}{16}$	—	.0625	2 { 56 64
	52	.0635	
	51	.0670	
	50	.0700	
	49	.0730	
	48	.0760	
$\frac{5}{64}$	—	.0781	3 48 3 56 4 40 4 48
	47	.0785	
	46	.0810	
	45	.0820	
	44	.0860	
	43	.0890	
	42	.0935	
$\frac{3}{32}$	—	.0937	5 40 5 44 6 32
	41	.0960	
	40	.0980	
	39	.0995	
	38	.1015	
	37	.1040	
	36	.1065	
$\frac{7}{64}$	—	.1094	6 40
	35	.1100	
	34	.1110	
	33	.1130	
	32	.1160	
	31	.1200	
$\frac{1}{8}$	—	.1250	8 { 32 36
	30	.1285	
	29	.1360	
	28	.1405	
$\frac{9}{64}$	—	.1406	10 24
	27	.1440	
	26	.1470	
	25	.1495	
	24	.1520	
	23	.1540	

TAP DRILL SIZES

Fractional Size Drills Inches	Wire Gauge Drills	Decimal Equivalent Inches	Tap Sizes Size of Threads Thread per inch	
$\frac{5}{32}$	—	.1562		
	22	.1570		
	21	.1590	10	32
	20	.1610		
	19	.1660		
	18	.1695		
$\frac{11}{64}$	—	.1719		
	17	.1730		
	16	.1770	12	24
	15	.1800		
	14	.1820	12	28
	13	.1850		
$\frac{3}{16}$	—	.1875		
	12	.1890		
	11	.1910		
	10	.1935		
	9	.1960		
	8	.1990		
	7	.2010	$\frac{1}{4}$	20
$\frac{13}{64}$	—	.2031		
	6	.2040		
	5	.2055		
	4	.2090		
	3	.2130	$\frac{1}{4}$	28
$\frac{7}{32}$	—	.2187		
	2	.2210		
	1	.2280		
$\frac{15}{64}$		.2340		
		.2344		
		.2380		
		.2420		
$\frac{1}{4}$		.2460		
		.2500		

HOW TO ORDER LUMBER

Width in Inches	BOARD MEASURE Length in Feet												
	4	5	6	7	8	9	10	11	12	13	14	15	16
2	0-8	0-10	1-0	1-2	1-4	1-6	1-8	1-10	2-0	2-2	2-4	2-6	2-8
3	1-0	1-3	1-6	1-9	2-0	2-3	2-6	2-9	3-0	3-3	3-6	3-9	4-0
4	1-4	1-8	2-0	2-4	2-8	3-0	3-4	3-8	4-0	4-4	4-8	5-0	5-4
5	1-8	2-1	2-6	2-11	3-4	3-9	4-2	4-7	5-0	5-5	5-10	6-3	6-8
6	2-0	2-6	3-0	3-6	4-0	4-6	5-0	5-6	6-0	6-6	7-0	7-6	8-0
7	2-4	2-11	3-6	4-1	4-8	5-3	5-10	6-5	7-0	7-7	8-2	8-9	9-4
8	2-8	3-4	4-0	4-8	5-4	6-0	6-8	7-4	8-0	8-8	9-4	10-0	10-8
9	3-0	3-9	4-6	5-3	6-0	6-9	7-6	8-3	9-0	9-9	10-6	11-3	12-0
10	3-4	4-2	5-0	5-10	6-8	7-6	8-4	9-2	10-0	10-10	11-8	12-6	13-4
11	3-8	4-7	5-6	6-5	7-4	8-3	9-2	10-1	11-0	11-11	12-10	13-9	14-8
12	4-0	5-0	6-0	7-0	8-0	9-0	10-0	11-0	12-0	13-0	14-0	15-0	16-0

Lumber is usually sold at a certain price per board foot. Thus, in ordering lumber for any home or farm building job, it is important for you to understand board measure. This brief explanation and table should help you.

Board measure applies to 1"-thick boards or any finished size less than 1". A board foot measures 1" (or less) thick by 12" wide by 12" long, or the equivalent. To find the number of board feet in any board, find the length of the board in feet at the top of the table. Follow down this column until the width in inches is reached to get the board footage.

Example: A board 8' long and 10" wide contains 6-8 board feet or 6'8", or $6\frac{2}{3}$ board feet. After determining the number of board feet, multiply by the cost per board foot to arrive at the cost of the board. Lumber thicker than 1" can be computed by multiplying the figures given in the table by 2, 3 or 4 as the case may be. Thus, in the example, a 2"-thick board would contain $13\frac{1}{3}$ board feet.

The Market Place

The work you get out of portable electric tools depends upon the quality that's built into them. And a quality tool costs you less in the long run because it gives you more years of service.

Every B&D Utility Tool and Accessory is expertly built of quality materials—correctly designed for the job it is meant to handle—with large volume production that keeps prices low!

Black & Decker Utility Tools are compact, well-balanced, easy to handle even in close quarters. They give you the famous "Pistol Grip and Trigger Switch" that revolutionized portable electric tool design. From switch to spindle, every last bearing, gear and shaft is selected with an eye to top performance. Their husky die-cast aluminum housings stand up under years of service. And Black & Decker motors . . . made completely in our own plant to the highest standards . . . are recognized as the finest in the industry.

Black & Decker Utility Tools are sold through hardware, appliance, department and specialty stores. Look for the Black & Decker Utility Display (Fig. 67). And stop in for a demonstration that will prove to you that "Black & Decker" means top-notch performance around your home, workshop or farm! Don't accept substitutes . . . there is no substitute for Black & Decker Utility quality!

BLACK & DECKER UTILITY 1/4" DRILL (HU-1) — a handy, high-quality tool with plenty of uses around the house—drilling, sanding, polishing, grinding, buffing, wire brushing, etc.

BLACK & DECKER UTILITY 5" SANDER-POLISHER (HU-50)—the tool of a 1000-and-1 uses—gives you *extra* power for heavier-duty drilling; a spindle speed of 3000 R.P.M. for faster, smoother sanding. Comes complete with 1/4" Jacobs drill chuck, sanding discs, polishing bonnet, molded rubber pad, wax and auto polish—all at one low price!

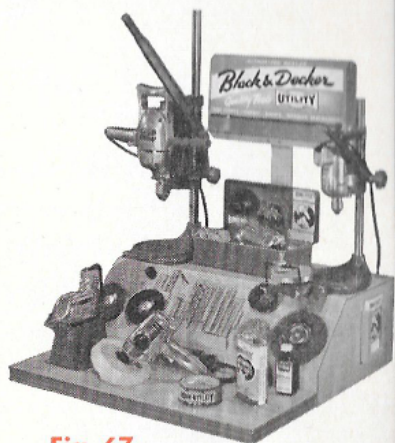
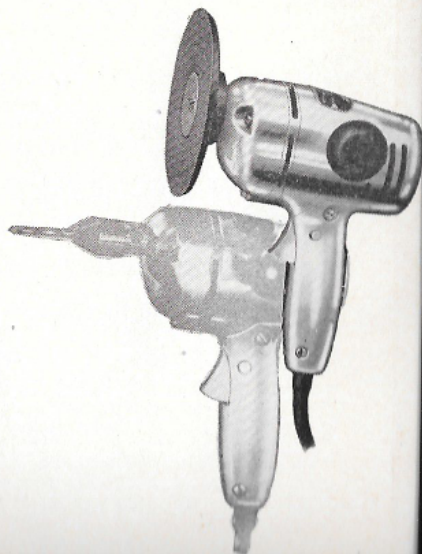
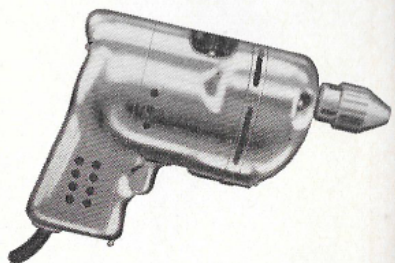
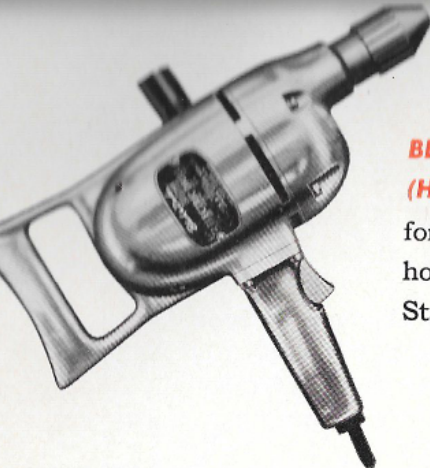


Fig. 67



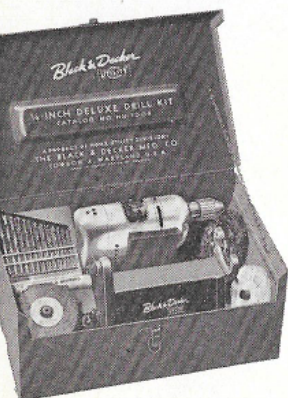


BLACK & DECKER UTILITY 1/2" ELECTRIC DRILL

(HU-20)—a husky power drill with extra capacity for construction and repair jobs requiring larger holes—makes powerful drill press in Bench Stand—drives Hole Saws up to 3" diam.

BLACK & DECKER UTILITY 1/4" DRILL KIT (HU-2)

—Contains 1/4" Drill, 7 High-Speed Drill Bits (1/16" to 1/4" inclusive), 5" molded rubber pad, 4" wire wheel brush, sanding discs, wheel arbor in fitted steel kit box.



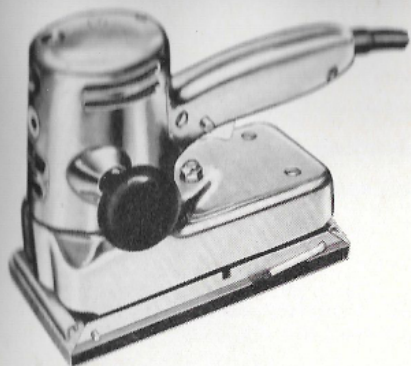
BLACK & DECKER UTILITY 1/4" DELUXE DRILL KIT

(HU-1004) — Contains 1/4" Drill, Horizontal Stand, 13 High-Speed Drill Bits (1/16" to 1/4" inclusive), 4" wire wheel brush, 3" grinding wheel, 3" cotton buffing wheel, tube of polishing and buffing compound, wheel arbor in fitted steel case.

BLACK & DECKER UTILITY SANDER-POLISHER KIT

(HU-51) —Contains all items sold with Sander-Polisher (see above) *plus* 7 High-Speed Drill Bits (1/16" to 1/4" inclusive), 4 wood augers (3/8" to 3/4" inclusive), 3/4" countersink, in streamlined, fitted steel case.



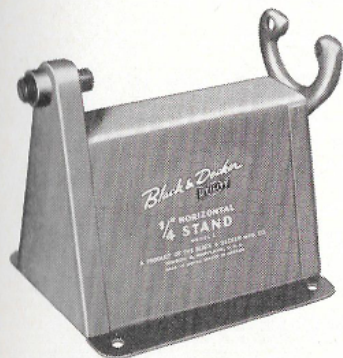
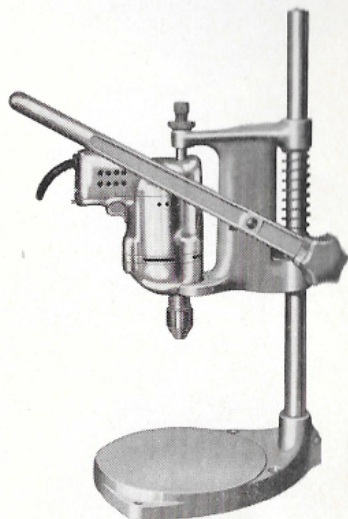


BLACK & DECKER No. 44 SANDER (HU-44) —

A real finishing sander requiring no final hand sanding. Even a beginner can do a satin-smooth, professional job. Surfaces furniture, removes paint, levels joints, etc.

BLACK & DECKER UTILITY BENCH STANDS —

Convert portable tools into powerful drill presses. Buy HU-2300 for $\frac{1}{4}$ " Drill and Sander-Polisher; HU-2301 for $\frac{1}{2}$ " Drill.

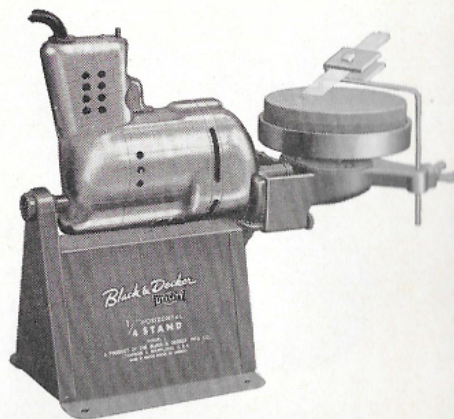


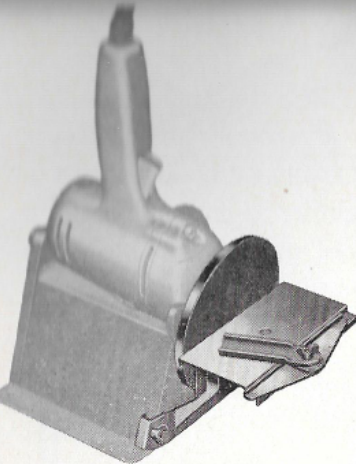
BLACK & DECKER UTILITY HORIZONTAL STAND (HU-2302) —

Frees both hands for applying work when used with $\frac{1}{4}$ " Drill or Sander-Polisher and grinding, buffing, abrasive, Roto-Hone and Disc Sanding Table attachments.

BLACK & DECKER UTILITY ROTO-HONE ATTACHMENT (HU-1006) —

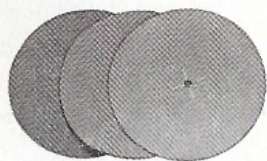
Hones all kinds of edged tools and knives to accurate, razor-like sharpness. Clamp and guide bar maintains correct angle in honing plane bits, chisels, lathe tools, etc. Used with $\frac{1}{4}$ " Drill or Sander-Polisher and Horizontal Stand.





BLACK & DECKER UTILITY DISC SANDING TABLE ATTACHMENT (HU-1005)

—This revolutionary device for precision sanding includes 5" metal sanding plate, clamp-on sanding table, 3 sanding discs, mitre gage and tube of Disc Cement for cementing sanding discs to sanding plate. Used with $\frac{1}{4}$ " Drill or Sander-Polisher and Horizontal Stand.



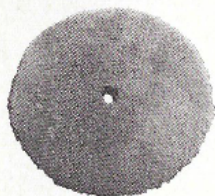
B&D UTILITY 5" SANDING DISCS

come in coarse, medium and fine grades. Coarse grade discs give fastest material removal; fine grades produce smoothest finish.



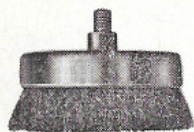
B&D UTILITY 5" LAMBSWOOL BONNETS (HU-1310)

are made of high grade skins to give very high lustre in polishing and waxing.



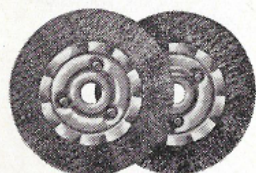
B&D UTILITY 5" PILE FABRIC PADS (HU-1301)

give a smoother and more uniform finish in rubbing down "orange peel" and spray pits from newly lacquered surfaces.



B&D UTILITY 3" WIRE CUP BRUSHES (HU-1220)

screw directly into $\frac{1}{4}$ " Drill or 5" Sander-Polisher spindles for cleaning and removing rust and old paint.

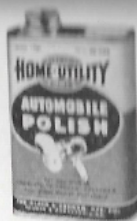


B&D UTILITY WIRE WHEEL BRUSHES

come in 4" and 6" diams., in fine and coarse wire. Give dense, even brushing surface with each tuft locked independently.

B&D UTILITY AUTOMOBILE POLISH (HU-2196)

produces brilliant, clean finish on all car surfaces. Leaves no residue or film to collect dirt.



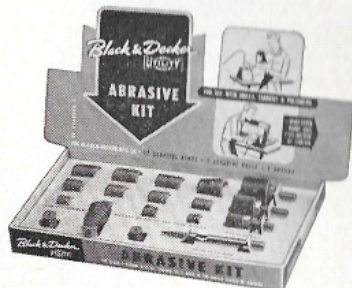
B&D UTILITY WAX (HU-2197)

produces brilliant, lasting finish when used with power polisher. Perfect for floors, woodwork, furniture, linoleum, luggage, etc.



BLACK & DECKER UTILITY ABRASIVE KIT (HU-1003)

—A well-planned assortment of coarse and fine abrasive bands and rolls with four arbors for a $\frac{1}{4}$ " chuck. Speed up rough cleaning and finish sanding of flats, curves, irregular surfaces and intricate designs.



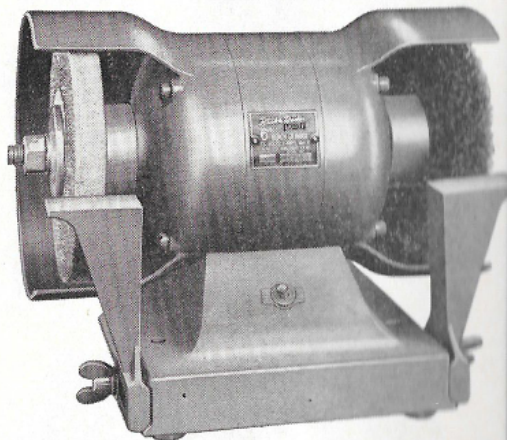
BLACK & DECKER UTILITY BUFFING AND POLISHING KIT (HU-1002)

—Contains 3" cotton buffing wheel, 4" wire wheel brush, 3" grinding wheel, tube of buffing and polishing compound, wheel arbor for $\frac{1}{4}$ " chuck.



BLACK & DECKER UTILITY 6" BENCH GRINDER (HU-65)

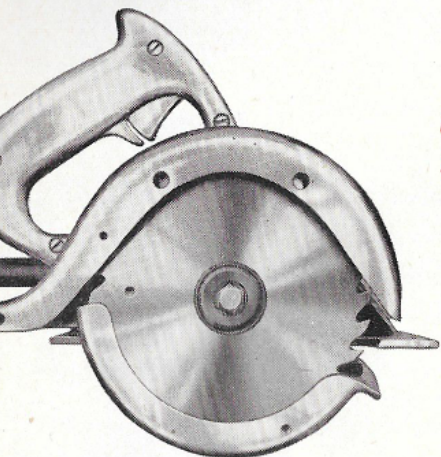
is a handy tool for sharpening, grinding, wire brushing and buffing. May also be equipped with $\frac{1}{2}$ " Jacobs Chuck for driving drill bits, reamers, sanding pads, etc. Powered by a famous B&D $\frac{1}{4}$ H.P. constant-speed motor.



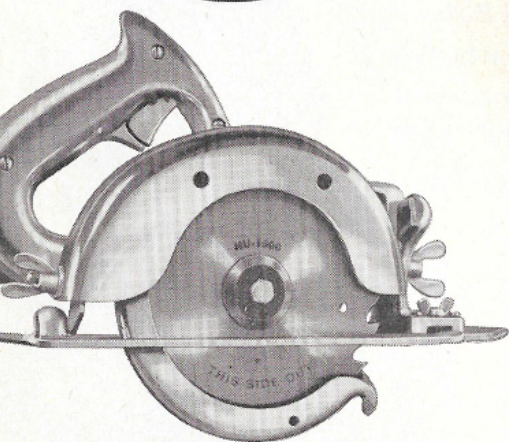
Also: twist drills—auger bits—countersinks—masonry bits—chucks—wheel arbors—cotton buffs

BLACK & DECKER UTILITY ELECTRIC SAWS

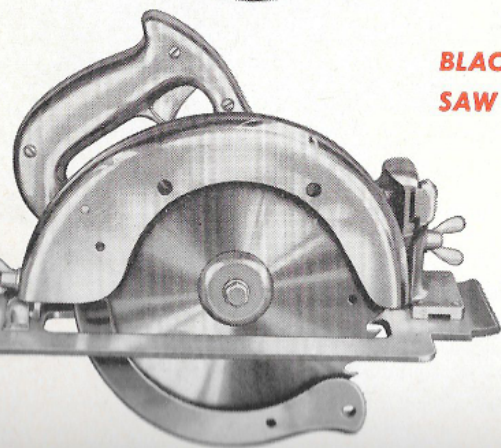
Black & Decker Utility Electric Saws make practically any cut in practically all building materials ten times faster than by hand. They give you abundant power from specially designed B&D universal (AC-DC) motors . . . perfect balance for easy handling . . . quick-operating depth and bevel adjustments . . . telescoping blade guard and instant-release trigger switch for maximum safety . . . extra-husky parts for years of service!



BLACK & DECKER UTILITY 6" HEAVY-DUTY SAW (HU-60) gives you professional sawing equipment at a minimum price. Cuts up to $2\frac{1}{16}$ " depth at 90° ; up to $1\frac{5}{16}$ " at 45° . Weighs only $9\frac{1}{2}$ lbs. Depth and bevel attachment available.



BLACK & DECKER UTILITY 6" DELUXE HEAVY-DUTY SAW (HU-61) contains all the above features, *plus* a versatile adjusting shoe. Cutting depth can be set at any point between 0" and 2". Calibrated quadrant permits bevel cuts from 45° to 90° . Weighs only $11\frac{1}{4}$ lbs.



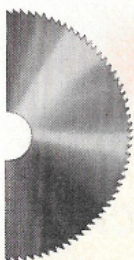
BLACK & DECKER UTILITY 8" HEAVY-DUTY SAW (HU-80) gives you *extra* capacity so often needed in building and remodeling jobs! It cuts up to $2\frac{13}{16}$ " depth at 90° ; up to $2\frac{1}{16}$ " depth at 45° . Built-in depth and bevel adjustments. Weighs only $14\frac{1}{4}$ lbs.

B&D UTILITY COMBINATION SAW BLADES

for general purpose ripping and cross cutting have only 20 or 30 teeth (6" or 8" diam.), causing them to cut chips rather than saw dust. Teeth receive less wear, stay sharp longer, give definitely smoother cuts. Seventeen-gauge tooth thickness reduces "flutter."



B&D UTILITY CROSSCUT SAW BLADES give very fast, smooth cross-cutting. Make smoother cuts than Combination Blade.



B&D UTILITY ABRASIVE DISCS help you cut slate, marble, tile, asbestos cement board, metal, etc.



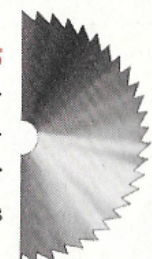
B&D UTILITY CARBIDE-TIPPED SAW BLADES

cut tough composition materials 7-12 times faster than abrasive discs. Last 30 times longer between sharpenings than regular steel blades.



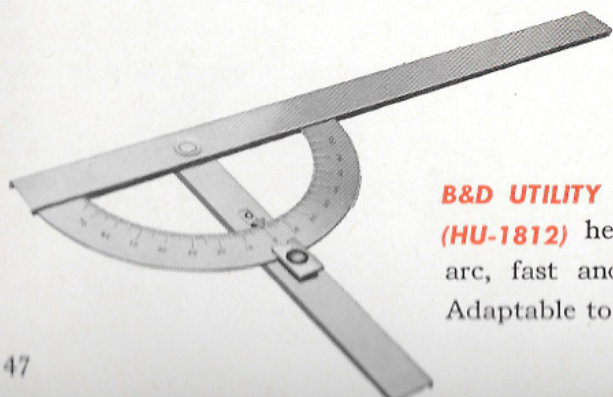
B&D UTILITY FLOORING SAW BLADES

save costly blade replacements when you are cutting reclaimed lumber where occasional nails may be encountered.



B&D UTILITY PLANER SAW BLADES

give very fast, smooth cross-cutting. Make smoother cuts than Combination Blade.



B&D UTILITY SAW PROTRACTOR

(HU-1812) helps you make every cut in a 180° arc, fast and accurately. Sets in a jiffy. Adaptable to most makes of electric saws.



BLACK & DECKER SERVICE

EVEN the finest of mechanical products will eventually show wear and need attention. When this occurs with a Black & Decker Tool, it can be conveniently and completely serviced at a Factory Branch within 24 hours of any customer. There are 33 of these company-owned, company-operated B&D Service Branches in principal cities of the U.S.A. and Canada. Each one is manned by factory-trained expert mechanics; equipped with special electric tool servicing machinery; and stocked with genuine Black & Decker replacement parts. It's one more reason why it pays to—

buy Black & Decker Utility Tools!

Factory Sales & Service Branches

33 FACTORY-OPERATED SERVICE BRANCHES

ATLANTA 3, GEORGIA.....	316 Techwood Drive, N.W.
BALTIMORE 11, MARYLAND.....	203 West 28th Street
BOSTON 35, MASSACHUSETTS.....	12 Market Street (Brighton)
BUFFALO 9, NEW YORK.....	881 W. Delavan Avenue
CHARLOTTE 6, NORTH CAROLINA.....	117 E. Ninth Street
CHICAGO 7, ILLINOIS.....	1100 W. Jackson Boulevard
CINCINNATI 2, OHIO.....	1094 Gilbert Avenue
CLEVELAND 15, OHIO.....	2118 East 21st Street
DALLAS 1, TEXAS.....	2613 Ross Avenue
DENVER 4, COLORADO.....	1010 Bannock Street
DES MOINES 12, IOWA.....	2811 Ingersoll Avenue
DETROIT 2, MICHIGAN.....	3028 East Grand Boulevard
HOUSTON 3, TEXAS.....	409 Velasco Street
INDIANAPOLIS 2, INDIANA.....	1125 West 16th Street
KANSAS CITY 8, MISSOURI.....	1603 Oak Street
LOS ANGELES 7, CALIFORNIA.....	2432 South Broadway
MEMPHIS 3, TENNESSEE.....	921 South Third Street
MIAMI 37, FLORIDA.....	3900 N.W. Seventh Avenue
MILWAUKEE 13, WISCONSIN.....	6301 Blue Mound Road
MINNEAPOLIS 8, MINNESOTA.....	2815 Nicollet Avenue
NEWARK 5, NEW JERSEY.....	611 McCarter Highway
NEW ORLEANS 12, LOUISIANA.....	639 Dryades Street
NEW YORK 13, NEW YORK.....	55 Vandam Street
PHILADELPHIA 3, PA.....	333 North 20th Street (at Callowhill)
PITTSBURGH 13, PENNSYLVANIA.....	4740 Baum Boulevard
PORTLAND 9, OREGON.....	1640 N.W. Johnson Street
SAN FRANCISCO 3, CALIFORNIA.....	9th and Bryant Street
SEATTLE 9, WASHINGTON.....	434 Eighth Avenue, N.
ST. LOUIS 10, MISSOURI.....	615 South Vandeventer Street
SYRACUSE 3, NEW YORK.....	2140 Eric Boulevard, E.

BLACK & DECKER MFG. CO., Limited, CANADA

TORONTO 2, ONTARIO.....	80-86 Fleet Street, East
MONTREAL 14, P. Q.....	7865 St. Lawrence Blvd.
WINNIPEG, MANITOBA.....	955 Portage Avenue
BLACK & DECKER, LTD.	Harmondsworth, Middlesex, England
BLACK & DECKER, (A'asia), PTY. LTD.	Glebe, Sydney, Australia
BLACK & DECKER, S.A.	Claudio Bernard, 180-F, Mexico, D.F.
BLACK & DECKER, INC.	Rua Oriente 768, Sao Paulo, Brazil

Builders of Quality Tools Since 1910

Black & Decker



**PORTABLE
ELECTRIC
TOOLS**

**The Black & Decker Mfg. Co.
Towson 4, Maryland**



Black & Decker



Price List of Oct. 1, 1952

Cat. No.	Item	List Price EACH ITEM
HU-1	1/4" Drill	\$22.95
HU-2	1/4" Drill Kit	32.95
HU-20	1/2" Drill	44.95
HU-44	No. 44 Sander	46.95
HU-50	5" Sander-Polisher	32.95
HU-51	5" Sander-Polisher Kit	49.95
HU-60	6" Heavy-Duty Saw	56.50
HU-61	6" Heavy-Duty Deluxe Saw	76.50
HU-65	6" Bench Grinder	45.00
HU-80	8" Heavy-Duty Saw	92.50
HU-1002	Buffing & Polishing Accessory Kit	3.50
HU-1003	Abrasive Accessory Kit	4.50
HU-1004	1/4" Deluxe Drill Kit	42.95
HU-1005	Disc Sanding Table Attachment	7.75
HU-1006	Roto-Hone Attachment	10.95
HU-1007	Set of 4 Wood Augers and Countersink	7.95
HU-1008	Saw Drive Adaptor Assortment	5.00
HU-1200	4" Fine Wire Wheel Brush	1.65
HU-1201	4" Coarse Wire Wheel Brush	1.20
HU-1202	6" Fine Wire Wheel Brush	2.70
HU-1203	6" Coarse Wire Wheel Brush	1.60
HU-1204	6"—2 section Coarse Wire Wheel Brush	2.40
HU-1220	3" Wire Cup Brush	2.40
HU-1300	5" Molded Rubber Pad (with clamp washer and screw)—threaded shank	1.75
HU-1301	5" Pile Fabric Pad	1.25
HU-1302	5" Molded Rubber Pad (with clamp washer and screw)—1/4" chuck shank	1.75
HU-1310	5" Lambswool Bonnet	1.25
HU-1320	3" x 3/8" x 1/2" Cotton Buff	.50
HU-1321	6" x 5/8" x 1/2" Cotton Buff	1.50
HU-1400	5" Metal Sanding Plate	1.65
HU-1410	5" 50-grit (Coarse) Open Grain Sanding Discs Package of 6	.60
HU-1411	5" 80-grit (Medium) Open Grain Sanding Discs Package of 6	.50
HU-1412	5" 120-grit (Fine) Open Grain Sanding Discs Package of 6	.45
HU-1413	60-grit—3 5/8" x 9" Abrasive Paper— Package of 12	.95
HU-1414	100-grit—3 5/8" x 9" Abrasive Paper— Package of 12	.80
HU-1415	150-grit—3 5/8" x 9" Abrasive Paper— Package of 12	.80
HU-1420	1 1/2" x 1 1/2" Coarse Abrasive Band (Pkg. of 6)	.70
HU-1421	1 1/2" x 1 1/2" Fine Abrasive Band (Pkg. of 6)	.70
HU-1422	3/4" x 3/4" Coarse Abrasive Band (Pkg. of 6)	.75
HU-1423	3/4" x 3/4" Fine Abrasive Band (Pkg. of 6)	.75
HU-1424	1" x 1" Coarse Abrasive Band (Pkg. of 6)	.80
HU-1425	1" x 1" Fine Abrasive Band (Pkg. of 6)	.80
HU-1426	Tapered Abrasive Roll (Pkg. of 6)	3.00
HU-1427	Coarse Straight Abrasive Roll (Pkg. of 6)	1.05
HU-1428	Fine Straight Abrasive Roll (Pkg. of 6)	1.05
HU-1440	3" x 1 1/2" x 1 1/2" Medium Grinding Wheel	1.00
HU-1441	6" x 5/8" x 1 1/2" Medium Grinding Wheel	2.00
HU-1442	6" x 5/8" x 1 1/2" Fine Grinding Wheel	2.00
HU-1443	Oil Stone only for Roto-Home Attachment	2.00
HU-1450	1/4" Deluxe Drill Kit Box Only	9.75
HU-1451	1/4" Drill Kit Box Only	4.25
HU-1452	5" Sander-Polisher Kit Box Only	8.75
HU-1500	1/4" Jacobs Hex-Key Chuck	3.45
HU-1501	Replacement Hex-Key for 1/4" Chuck	.15
HU-1502	1/2" Jacobs Hex-Key Chuck	5.45
HU-1503	Replacement Hex-Key for 1/2" Chuck	.20
HU-1504	1/2" Jacobs Hex-Key Chuck for 6" Bench Grinder	6.45

HU-1505	1/4" Jacobs Geared Chuck, Adaptor and Key...	7.00
HU-1506	1/2" Jacobs Geared Chuck, Adaptor and Key...	9.25
HU-1507	Key only for 1/4" Geared Chuck.....	.50
HU-1508	Key only for 1/2" Geared Chuck.....	.65
HU-1510	1/16" High Speed Drill Bit.....	.40
HU-1511	5/64" High Speed Drill Bit.....	.40
HU-1512	3/32" High Speed Drill Bit.....	.40
HU-1513	7/64" High Speed Drill Bit.....	.40
HU-1514	1/8" High Speed Drill Bit.....	.45
HU-1515	9/64" High Speed Drill Bit.....	.45
HU-1516	5/32" High Speed Drill Bit.....	.50
HU-1517	11/64" High Speed Drill Bit.....	.50
HU-1518	3/16" High Speed Drill Bit.....	.55
HU-1519	1/16" High Speed Drill Bit.....	.65
HU-1520	7/32" High Speed Drill Bit.....	.65
HU-1521	15/64" High Speed Drill Bit.....	.70
HU-1522	1/4" High Speed Drill Bit.....	.75
HU-1540	3/4" Countersink.....	1.55
HU-1541	5/8" Wood Auger.....	1.40
HU-1542	1/2" Wood Auger.....	1.55
HU-1543	3/8" Wood Auger.....	1.75
HU-1544	3/4" Wood Auger.....	1.95
HU-1551	1/4" Masonry Drill Bit.....	1.60
HU-1552	5/16" Masonry Drill Bit.....	1.75
HU-1553	3/8" Masonry Drill Bit.....	1.95
HU-1554	1/2" Masonry Drill Bit.....	2.45
HU-1600	6 1/8" Combination Blade.....	2.50
HU-1601	6 1/8" Planer Blade.....	4.00
HU-1602	6 1/8" Crosscut Blade.....	2.50
HU-1603	6" Abrasive Disc.....	2.75
HU-1604	6 1/8" Flooring Blade.....	2.50
HU-1605	6 1/8" Carbide Tipped Blade.....	24.75
HU-1606	6" Abrasive Disc.....	2.75
HU-1611	Depth and Bevel Attachment.....	5.45
HU-1612	Rip Fence for 6" Saw.....	2.00
HU-1613	Carrying Case for 6" H.D. or 6" Deluxe Saw...	9.50
HU-1640	6" Saw Blade Adaptor (1/2" hole).....	.45
HU-1641	6" Saw Blade Adaptor (5/8" hole).....	.45
HU-1800	8 1/4" Combination Blade.....	3.15
HU-1801	8 1/4" Planer Blade.....	5.75
HU-1802	8 1/4" Crosscut Blade.....	3.15
HU-1803	8" Abrasive Disc (for non-metallic cutting)...	5.25
HU-1804	8 1/4" Flooring Blade.....	3.15
HU-1805	8" Abrasive Disc (for thin gage metal cutting)...	5.25
HU-1806	8 1/4" Carbide Tipped Blade.....	29.75
HU-1811	Rip Fence for 8" Saw.....	2.00
HU-1812	Saw Protractor.....	4.50
HU-1813	Carrying Case for 8" Saw.....	15.00
HU-1840	8" Saw Blade Adaptor (1/2" hole).....	.45
HU-1841	8" Saw Blade Adaptor (5/8" hole).....	.45
HU-1842	8" Saw Blade Adaptor (3/4" hole).....	.45
HU-1843	8" Saw Blade Adaptor (Diamond Hole).....	.70
HU-2195	Roto-Oil for Roto-Hone Attachment (4 ozs)....	.45
HU-2196	Automobile Polish (16 Fl. Ozs.).....	.90
HU-2197	Electric Wax (7 oz.).....	.50
HU-2198	Tube of Disc Cement.....	.25
HU-2199	Tube of Buffing & Polishing Compound.....	.25
HU-2201	1/2" Dia. Band Arbor (1/4" Shank).....	.50
HU-2202	3/4" Dia. Band Arbor (1/4" Shank).....	.50
HU-2203	1" Dia. Band Arbor (1/4" Shank).....	.50
HU-2205	Abrasive Roll Arbor (1/4" Shank).....	.20
HU-2206	1/2" Dia. Wheel Arbor (1/4" Shank).....	.60
HU-2299	15 Foot Extension Cable.....	2.95
HU-2300	1/4" Bench Stand (Vertical).....	14.95
HU-2301	1/2" Bench Stand (Vertical).....	22.95
HU-2302	1/4" Horizontal Stand.....	3.35

Prices Subject to Change Without Notice